

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,365 DTD _____

CHANGE NO: 220

MODEL: (880) 22-1

TITLE: Specification Administrative Change

ORIGIN: Convair initiated.

REASON FOR CHANGE: To clarify the intent of the Specification.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
QUAR. WT. EMPTY	OPER. WT. EMPTY	0 INCH LB.
0	0	

EFFECT ON GUARANTEED PERFORMANCE: * None

<p>* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL</p> <p>ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:</p>	<p>ENGINEERING APPROVAL</p>
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LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:
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SPECIAL PROVISIONS:	<p>EFFECT ON PRICE PER AIRPLANE</p> <p>RECURRING: _____</p> <p>NON-RECURRING: _____</p> <p>TOTAL: _____</p>
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ACCEPTED: _____ CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 220

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 57, Paragraph 3.14.1.4 FLIGHT ENGINEER'S INSTRUMENTS:

Add the following item to the instrument list:

"One indicator light, cabin altitude warning"

Page 125, Paragraph 3.20.2.1 PRESSURIZATION:

Add the following sentence after the third sentence which ends in the ninth line:

"An indicator light shall be provided on the flight engineer's panel to indicate cabin altitude warning."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,296 DTD 23 Sept. 1958

CHANGE NO: 219

MODEL: (380) 22-1

TITLE: Plywood Floor Paneling in Buffet Service Areas,
Installation of

Rejected

ORIGIN: TWA requested by Letter No. 880-743, dated 17 September 1958

REASON FOR CHANGE: Customer request

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

GUAR. WT. EMPTY

OPER. WT. EMPTY

+38.0 lb

+38.0 lb

+26,254

INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND
TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL

ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON
PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES

ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

RECURRING: _____

NON-RECURRING: _____

TOTAL: _____

ACCEPTED:

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 219

Title: Plywood Floor Paneling in Buffet Service Areas, Installation of

Origin: TWA requested by Letter No. 880-743, dated 17 September 1958

Reason for Change: Customer request

Description of Change:

Page 31, Paragraph 3.7.1.6.4 LAVATORY AND BUFFET FLOORING:

Add the following sentence to the end of the paragraph:

"The floor panels in the forward and aft buffet service areas shall be of 1/2-inch Marine plywood material."

Page 113, Paragraph 3.19.3.2 FLOOR COVERING:

In the third line of the first sentence, delete the word "metal".

Effect on Weight Empty: +38.0 lbs.
Effect on Balance: +20,254 Inch-lbs
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,301 DTD _____

CHANGE NO: 218

MODEL: (880) 22-1

TITLE: Recirculation Fan, Air Conditioning System, Replacement of

ORIGIN: Convair initiated.

REASON FOR CHANGE: To install new recirculation fan redesigned by vendor which will meet Convair design requirements.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	
0	0	0 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: * None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL	
ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	
	ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE.
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____ CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 218

Title: Recirculation Fan, Air Conditioning System, Replacement of

Origin: Convair initiated.

Reason for Change: To install new recirculation fan redesigned by vendor which will meet Convair design requirements.

Description of Change:

Page A-17, APPENDIX I-C, PRESS., ANTI-ICING AND AIR COND. EQUIP:

Change the sixth item in the Description List as follows:

From: "1 Recirculation Blower (cabin air) Ham.
Standard 522200"

To: "1 Recirculation Blower (cabin air) Ham.
Standard 545751"

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

The following shall not appear in the Specification language:

The original version of the subject recirculation fan did not meet all Convair design performance requirements when tested under airborne conditions.

This original fan was a single stage unit using one impeller. The proposed fan is identified as a two-stage fan employing two impellers, one at each end of the drive-motor shaft, and which fully met Convair design performance requirements for ground and airborne operation. The new fan will be four inches greater in length than the original fan.

A possibility exists whereby the new fans will not be available for installation in the earlier delivered airplanes. In such case, retrofit will be accomplished on these airplanes through field service action.

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,303 DTD _____

CHANGE NO: 217A

MODEL: (880)22-1

TITLE: CAR Amendment 4b-9, Inclusion of in Specification

ORIGIN: Convair initiated

REASON FOR CHANGE: To comply with paragraph (c) Article 5 of
Purchase Agreement, and revision to CCP No. 217

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

GUAR. WT. EMPTY

OPER. WT. EMPTY

+6.0 lb

+6.0 lb

+5,632 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND
TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL

ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON
PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES

ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE.

RECURRING: _____

NON-RECURRING: _____

TOTAL: _____

ACCEPTED:

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR-22-002-217A

CONVAIR: SD

Hughes Tool Company
Change No. 217A

Title: CAR Amendment 4b-9, Inclusion of in Specification

Origin: Convair initiated

Reason for Change: To comply with paragraph (e) Article 5 of Purchase Agreement, and revision to CCP No. 217

Description of Change:

Page 8, Paragraph 2.1, APPLICABLE FEDERAL REGULATIONS:

Delete the following from the end of the last item in the amendment list:

"; and"

Add the following items to the amendment list:

"4b-8 (not applicable)

4b-9 adopted 27 August 1958; and"

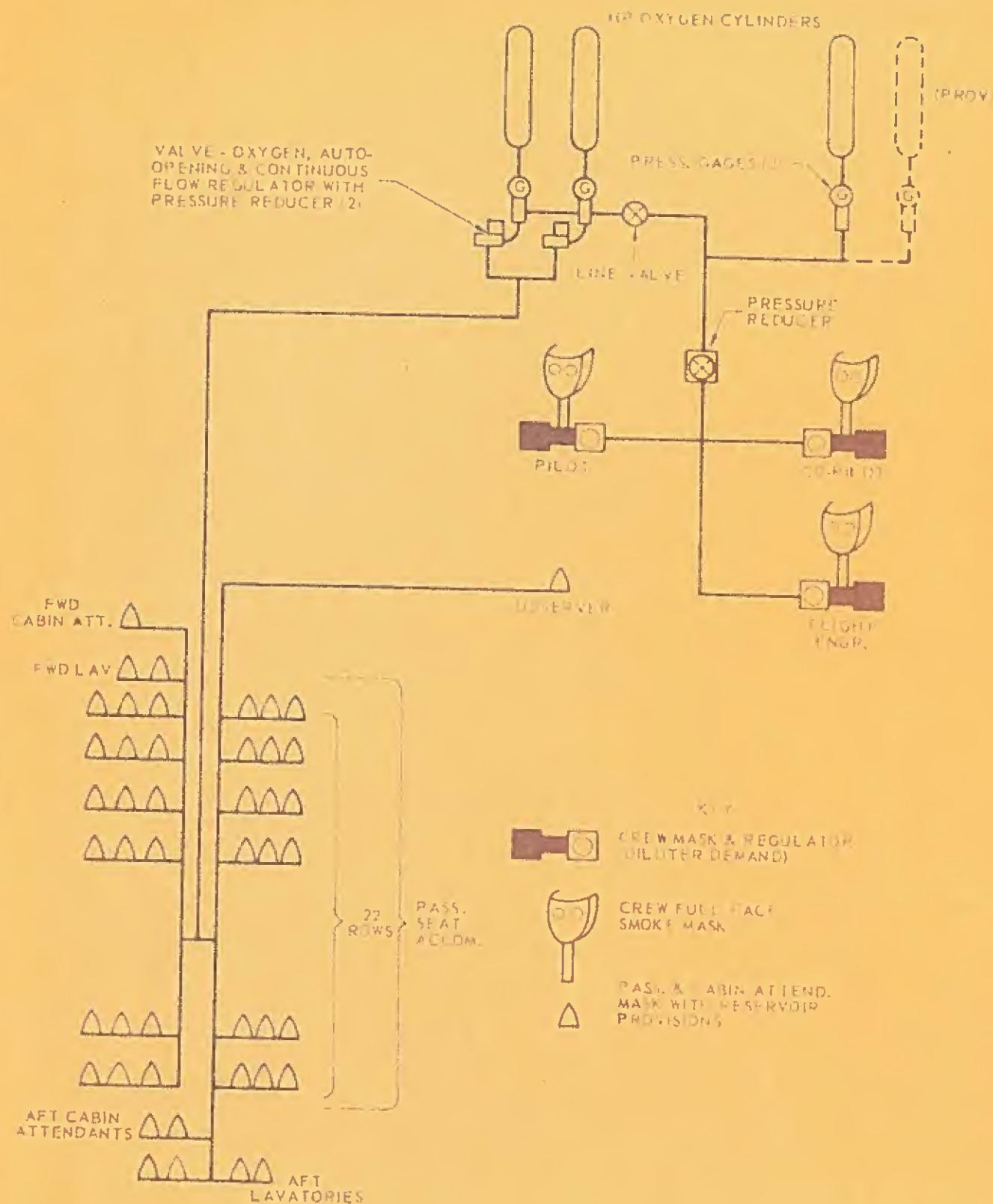
Page 118, Paragraph 3.19.5.4 INDIVIDUAL OUTLETS:

Change the third sentence to read as follows:

"Two oxygen outlets shall be provided in each lavatory."

Enclosure: (A) One copy of sketch - GASEOUS OXYGEN SYSTEM
(for preliminary use only, Figure 3.19-4 will
be revised to reflect the above change)

Effect on Weight Empty: 46.0 pounds
Effect on Balance: 45,632 inch-pounds
Effect on Performance: None



GASEOUS OXYGEN SYSTEM

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,351 DTD _____

CHANGE NO: 216

MODEL: (880) 22-1

TITLE: Exterior Markings and Color Schemes, TWA Selected

ORIGIN: Letter of Agreement No. 13, dated 20 September 1956 and Meeting of 23 September 1958 between TWA and Convair Representatives

REASON FOR CHANGE: Customer request.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

GUAR. WT. EMPTY

OPER. WT. EMPTY

463.0 lb

463.0 lb

459,798

INCH LB.

EFFECT ON GUARANTEED PERFORMANCE *

None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL

ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:

ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE: _____

AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

RECURRING: _____

NON-RECURRING: _____

TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: 3D

Hughes Tool Company
Change No. 216

Title: Exterior Markings and Color Schemes, TWA Selected

Origin: Letter of Agreement No. 13, dated 20 September 1956 and
Meeting of 23 September 1958 between TWA and Convair
Representatives.

Reason for Change: Customer request.

Description of Change:

Page A-15, APPENDIX I-C, FURNISHINGS:

Change the bottom item as follows:

<u>From:</u>	"Exterior Marking Paint - Weight is for CAA numbers and Identification	20.0 lb"
<u>To:</u>	"Exterior Marking and Color Scheme Paint (including weight for CAA numbers and identification)	23.0 lb"

Enclosure: (A) One copy of Convair Drawing No. 22-98001 -
EXTENSION MARKINGS - TWA (for information only)

Effect on Weight Empty: 463.0 pounds
Effect on Balance: 459,798 inch-pounds
Effect on Performance: None

NOTE: The weight empty as given above does not include the 20 pounds
previously allotted for CAA numbers and identification paint.

CONVAIR: SD

Hughes Tool Company
Change No. 215

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 7, Paragraph 1.2 GENERAL DESCRIPTION:

In the last line, change the words "vertical tail" to "fuselage".

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO. ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,288 DTD 13 August 1958

CHANGE NO: 214

MODEL: (880) 22-1

TITLE: Flight Data Recorder, Change in Vendor of
Cancelled

ORIGIN: Delta requested and Convair proposed for TWA

REASON FOR CHANGE: As above.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
GUAR. WT. EMPTY	OPER. WT. EMPTY		
Proposal 1 9.0 lb	Proposal 1 9.0 lb	Proposal 1 -5,639	inch lb
Proposal 2 65.0 lb	Proposal 2 65.0 lb	Proposal 2 10,486	INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: * None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL

ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:

ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE: _____ AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS: _____

EFFECT ON PRICE PER AIRPLANE:

RECURRING: _____

NON-RECURRING: _____

TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 214

Title: Flight Data Recorder, Change in Vendor of

Origin: Delta requested and Convair proposed for TWA

Reason for Change: As above.

Description of Change:

PROPOSAL No. 1

Page 61, Paragraph 3.14.3.8 FLIGHT DATA RECORDING PROVISIONS:

Delete the paragraph and substitute the following:

"Mounting provisions, pitot and static lines and the necessary wiring shall be provided in the right hand electronic rack for the later installation of one Minneapolis-Honeywell recording unit and one Minneapolis-Honeywell accessory unit. Pitot and static lines shall be routed from the copilot's line to the recorder location. These lines shall be capped when recorder is not installed. The wiring shall include installation of one circuit breaker. Mounting provisions shall also be provided for one Minneapolis-Honeywell acceleration sensor on or near the center of gravity of the airplane. These provisions shall consist of a mounting plate attached to the belt frame of the fuselage, and the necessary wiring. A power failure light shall be installed above the flight engineer's panel, adjacent to the door open warning light, to indicate interruption of power to the recording equipment."

Effect on Weight Empty: 49.0 pounds
Effect on Balance: -5,639 inch-pounds
Effect on Performance: None

PROPOSAL No. 2

Page 62, Paragraph 3.14.3.8 FLIGHT DATA RECORDING PROVISIONS:

Delete the paragraph title and the paragraph and substitute the following:

"3.14.3.8 FLIGHT DATA RECORDER: One Minneapolis-Honeywell recording unit and one Minneapolis-Honeywell accessory unit shall be installed in the right hand electronic rack. Pitot and static lines shall be routed from the copilot's line to the recording equipment. The wiring shall include the installation of one circuit breaker. One Minneapolis-Honeywell acceleration sensor shall be installed on or near the center of gravity of the airplane. A power failure light shall be installed above the flight engineer's panel, adjacent to the door opening warning light, to indicate interruption of power to the recording equipment."

Page A10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Add the following to the Description List:

"FLIGHT DATA RECORDER"

1 Recorder	Minn-Honeywell
1 Accessory Unit	Minn-Honeywell
1 Acceleration Sensor	Minn-Honeywell"

Effect on Weight Empty: 465.0 pounds
Effect on Balance: 410,486 inch-pounds
Effect on Performance: None

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,290 DTD Revised 17 December 1959

CHANGE NO: 212A

MODEL: 22-1 (Convair "880")

TITLE: VG Recorder, NACA Oil Damped, Installation of

ORIGIN NACA request to install subject equipment.

REASON FOR CHANGE: As above.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

GUAR. WT. EMPTY

OPER. WT. EMPTY

See note on second sheet

INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL

ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON
PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES.

ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED

SPECIAL PROVISIONS

EFFECT ON PRICE PER AIRPLANE

RECURRING:

NON-RECURRING:

TOTAL: _____

ACCEPTED:

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

DATE _____

CONVAIR: SD

Hughes Tool Company
Change No. 212A

Title: VG Recorder, NACA Oil Damped, Installation of

Origin: NACA request to install subject equipment.

Reason for Change: As above.

Description of Change:

Page 61 Cont., Paragraph 3.14.3.10 VG RECORDER PROVISIONS:

Revise the paragraph title and paragraph to read as follows:

"VG RECORDER: One VG recorder shall be installed on each of four airplanes** at the approximate center of gravity of the airplane in bottom of the fuselage aft of the rear spar. The installation shall include mounting, and tubing from the pitot and static lines connecting to the flight recorder (see Paragraph 3.14.3.8)."

In the double-asterisk note on the bottom of Page 61 Cont, delete the word "provisions".

Not to be a part of the Specification language:

The following weight effect shall be subtracted from the as weighed figures when considering guaranteed weight of the affected airplanes and is not to be included in the accumulative specification weight figures.

Effect on Weight:	+2.0 pounds
Effect on Balance:	+1,670 inch-pounds
Effect on Performance:	None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,292 DTD _____

CHANGE NO: 211

MODEL: (880) 22-1


TITLE
Specification Administrative Change

ORIGIN
Convair initiated.

REASON FOR CHANGE:
To clarify the intent of the Specification.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	
0	0	0 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *
None

<p>* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL.</p> <p>ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:</p>	 ENGINEERING APPROVAL
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LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 211

Page 1 of 2

Title: Specification Administrative Change.

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page A-16, APPENDIX I-C, FURNISHINGS:

Place an asterisk before the following items in the Description List:

- ** 4 Escape Chute (inflatable)
- * 1 Flight Manual (CAA Approved)
- * 1 Maintenance and Operating Manual"

Add the following to the bottom of Page A-16:

"* Fixed Useful Load"

Page 18, APPENDIX I-C, OXYGEN EQUIPMENT:

Place an asterisk before the following items in the Description List:

- ** 3 Portable O₂ (310 - Liter)
- ~~* 2 Regulator (Crew Diluter - Demand Type)~~
- * 1 Portable O₂ (310 - Liter)
- * 1 Pr. Asbestos Gloves"

Delete the following from Page A-18:

"Ewing outlets shall be furnished for the cabin attendants' locations, flight observer's and lavatory installations

(Ewing Products Inc., Burbank, California)"

CONVAIR; SD

Hughes Tool Company
Change No. 211

Page 2 of 2

Change the following on the bottom of Page A-18:

From: "* Useful Load Item"

To: "* Fixed Useful Load"

Page A-21, APPENDIX I-C, FIRE EXTINGUISHING EQUIPMENT:

Place an asterisk before the following items in the Description List:

"* 1 Portable CO₂ Bottle
* 3 Portable Water Bottles"

Add the following to the bottom of Page A-21:

"* Fixed Useful Load"

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,290 DTD 8 September 1958

CHANGE NO: 212

MODEL: (880) 22-1

TITLE: VG Recorder, Installation of Provisions for

ORIGIN: Convair initiated.

REASON FOR CHANGE: NACA requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	** NCH L.B.
**	**	

EFFECT ON GUARANTEED PERFORMANCE: None

<p>* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL</p> <p>ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:</p>	ENGINEERING APPROVAL
--	----------------------

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:
----------------------------	---------------------

SPECIAL PROVISIONS:	<p>EFFECT ON PRICE PER AIRPLANE:</p> <p>RECURRING: _____</p> <p>NON-RECURRING: _____</p> <p>TOTAL: _____</p>
---------------------	--

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 212

Title: VG Recorder, Installation of Provisions for

Origin: Convair initiated.

Reason for Change: NACA requested.

Description of Change:

Page 61, Paragraph 3.14 INSTRUMENTS AND NAVIGATION EQUIPMENT:

Add the following new paragraph to the page:

"3.14.3.10 VG RECORDER PROVISIONS: Provisions shall be made for the later installation of one VG recorder on each of four airplanes*. The VG recorder provisions shall be installed at the approximate center of gravity of the airplane in bottom of the fuselage aft of the rear spar. The provisions shall include mounting, and tubing from the pitot and static lines connecting to the flight recorder (see paragraph 3.14.3.8). Means shall be provided for capping these lines when VG recorder is not installed."

Add the following footnote to the bottom of the page:

"*The specific airplanes on which the VG recorder provisions shall be installed will be Convair Production airplanes 22, 23, 24 and 26 (TWA airplanes 14, 15, 16 and 17)".

Not to be a part of the Specification language:

**The following weight effect shall be subtracted from the as weighed figures when considering guaranteed weight of the effected airplanes and is not to be included in the accumulative Specification weight figures.

Effect on Weight:	1 1.0 pound
Effect on Balance:	Negligible
Effect on Performance:	None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,292 DTD _____

CHANGE NO: 211

MODEL: (880) 22-1


TITLE
Specification Administrative Change

ORIGIN:
Convair initiated.

REASON FOR CHANGE:
To clarify the intent of the Specification.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
QUAR. WT. EMPTY	OPER. WT. EMPTY	
0	0	0 INCH L.B.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	 ENGINEERING APPROVAL
---	---

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____
BY: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 211

Page 1 of 2

Title: Specification Administrative Change.

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page A-16, APPENDIX I-C, FURNISHINGS:

Place an asterisk before the following items in the Description List:

- ** 4 Escape Chute (inflatable)
- * 1 Flight Manual (CAA Approved)
- * 1 Maintenance and Operating Manual"

Add the following to the bottom of Page A-16:

"* Fixed Useful Load"

Page 18, APPENDIX I-C, OXYGEN EQUIPMENT:

Place an asterisk before the following items in the Description List:

- ** 3 Portable O₂ (310 - Liter)
- ~~* 3 Regulator (Crew Diluter - Demand Type)~~
- * 1 Portable O₂ (310 - Liter)
- * 1 Pr. Asbestos Gloves"

Delete the following from Page A-18:

"Ewing outlets shall be furnished for the cabin attendants' locations, flight observer's and lavatory installations

(Ewing Products Inc., Burbank, California)"

CONVAIR: SD

Hughes Tool Company
Change No. 211

Page 2 of 2

Change the following on the bottom of Page A-18:

From: "** Useful Load Item"

To: "** Fixed Useful Load"

Page A-21, APPENDIX I-C, FIRE EXTINGUISHING EQUIPMENT:

Place an asterisk before the following items in the Description List:

"* 1 Portable CO₂ Bottle
* 3 Portable Water Bottles"

Add the following to the bottom of Page A-21:

"* Fixed Useful Load"

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,291 DTD _____

CHANGE NO: 210

MODEL: (880) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated**

REASON FOR CHANGE: **To clarify the intent of the Specification.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	0 INCH LB.
0	0	

EFFECT ON GUARANTEED PERFORMANCE: *
None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL

ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:

ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

RECURRING: _____

NON-RECURRING: _____

TOTAL: _____

ACCEPTED

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 210

Title: Specification Administrative Change

Origin: Convair initiated

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 59, Paragraph 3.14.3.2.2 STATIC SELECTOR VALVES:

Change the following words in the first line:

From: "toggle-type"

To: "rotary-type"

Change the following word in the last line:

From: "instrument"

To: "auxiliary"

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,289 DTD _____

CHANGE NO: 209

MODEL: (880) 22-1

TITLE: Specification Administrative Change

ORIGIN: Convair initiated, and as requested by TWA Letter, Crissman to Eastland, dated 30 July 1958

REASON FOR CHANGE: To delete the landing gear control throttle switches, and to make the Specification compatible with the airplane.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

GUAR. WT. EMPTY

OPER. WT. EMPTY

0

0

0 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL

ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:

ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

RECURRING: _____

NON-RECURRING: _____

TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

FORM 10-1 (Rev. 6-15-54)

CONVAIR: SD

Hughes Tool Company
Change No. 209

Title: Specification Administrative Change

Origin: Convair initiated, and as requested by TWA Letter, Crissman to Eastland, dated 30 July 1958.

Reason for Change: To delete the landing gear control throttle switches, and to make the Specification compatible with the airplane.

Description of Change:

Page 32, Paragraph 3.8.1.2 CONTROLS:

Revise the fifth sentence, starting in the tenth line, to read as follows:

"The control lever shall remain locked until the left hand shock strut is extended and both main landing gear trucks are in the level zone."

Page 80, Paragraph 3.16.11.1 LANDING GEAR WARNING HORN:

Revise the paragraph title and paragraph to read as follows:

"LANDING GEAR AND STABILIZER WARNING HORN: A horn shall be provided to operate under the following conditions:

When any landing gear is not fully extended and locked with the aircraft airborne, the horn will operate if any power lever is retarded or if the flaps are in the range of approach to land. The power lever retard function will have a horn interrupter switch.

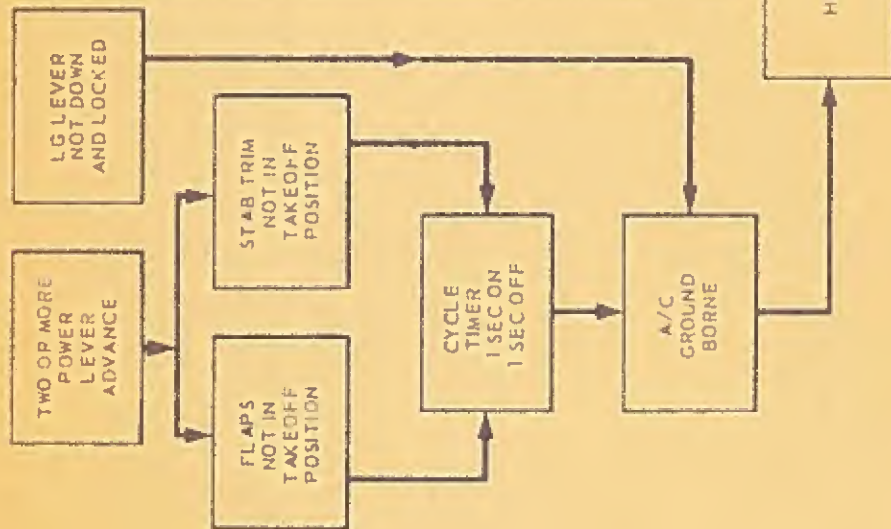
When the aircraft is ground borne, the horn will operate if the landing gear override lever is moved.

When the airplane is on the ground and any two or more of the power levers are advanced to take-off position, the horn will operate if the stabilizer and/or the flaps are not in the correct takeoff position.

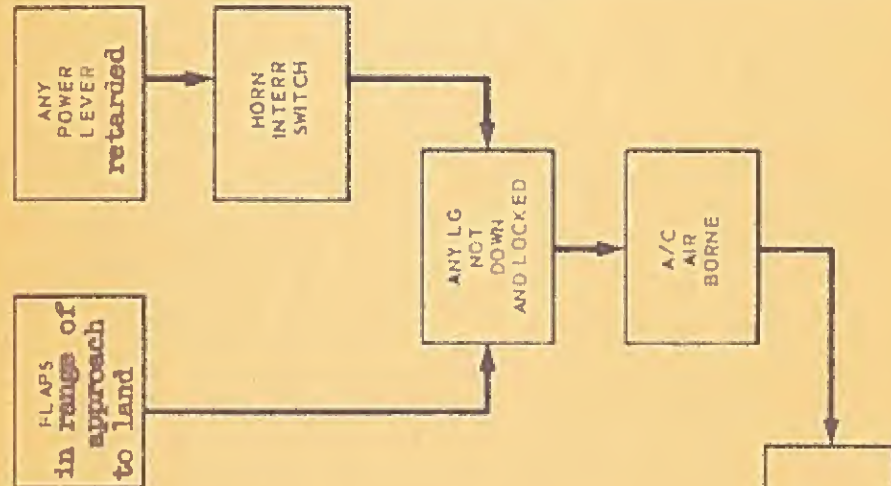
Enclosure: (A) One copy of Diagram "WARN. HORN, LANDING GEAR CONTROL & LANDING GEAR POSITION SYSTEMS (for information only)

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

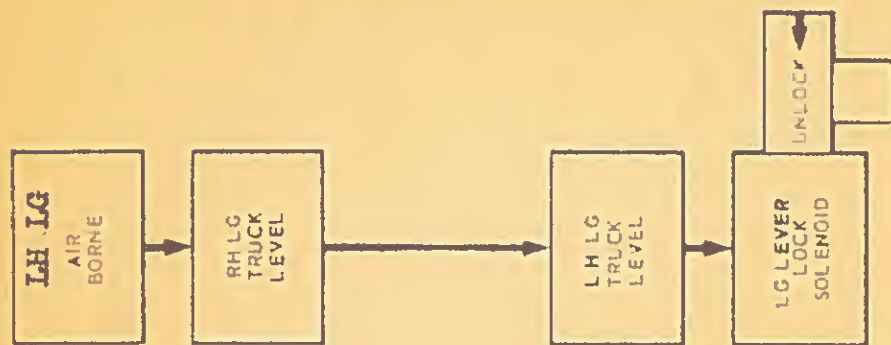
TAKEOFF



AIRBORNE AND LANDING



LANDING GEAR LEVER



L N O R
H M E

GREEN

LIGHT ON WHEN ITS RESPECTIVE GEAR DOWN AND LOCKED.

D O O R
R

RED

LIGHT ON WITH ANY WHEEL-Well DOOR NOT CLOSED AND LOCKED.

U N S A
E

RED

LIGHT ON WHEN -

1. ANY LANDING GEAR NOT DOWN OR UP AND LOCKED.
2. LH AND/OR RH LANDING GEAR DOWN AND LOCKED WITH NOSE GEAR UP AND LOCKED.
3. HANDLE NOT LOCKED WITH ALL LANDING GEAR DOWN AND LOCKED AND A/C GROUND BORNE.

T R U C K
L

AMBER

LIGHT ON IF EITHER MAIN LANDING GEAR TRUCK NOT IN LEVEL ZONE.

4. Landing gear lever not down and mechanically locked, all landing gear down and locked.
WARN HORN, LANDING GEAR CONTROL & LANDING GEAR POSITION SYSTEMS

CONVAIR: SD

Hughes Tool Company
Change No. 208

Title: Mach Trim Provisions, "Kollsman Integrated Flight Instrument System" Control Chassis

Origin: TWA requested by Letter No. 880-667, dated 8 July 1958

Reason for Change: Customer requested.

Description of Change:

This change has no effect on Specification language.

Effect on Weight Empty: Negligible
Effect on Balance: Negligible
Effect on Performance: None

The following shall not appear in the Specification language:

In the TWA request it was stipulated that the mach trim provisions in the pilot's system would remain disconnected. This will apply to static air temperature indicator, true air speed indicator and trim stability system control. As the mach trim provisions are now installed and connected in the pilot's system, this proposal will install interchangeable provisions in the copilot's system. The copilot's provisions shall be disconnected.

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,287 DTD _____

CHANGE NO: 207

MODEL: (880) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated.**

REASON FOR CHANGE: **To make landing gear component heat treat levels compatible with increased design loads.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	
0	0	0 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL	
ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	
	ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE _____

CONVAIR: SD

Hughes Tool Company
Change No. 207

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To make landing gear component heat treat levels compatible with increased design loads.

Description of Change:

Page 36, Paragraph 3.8.4.8 MATERIAL PROPERTIES:

Revise the first sentence to read as follows:

"The main landing gear shock strut outer cylinder and piston, main landing gear upper torque arm bolt and the wheel truck beam in addition to the nose gear side brace bolt, nose gear steering pinion and nose gear steering rack may be made from SAE 4340 steel, heat treated to 260,000 - 280,000 psi."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,277 DTD 10 July 1958

CHANGE NO: 206A

MODEL: (880) 22-1

TITLE Lamp Weight and Takeoff Weight, Increase of

ORIGIN: TWA requested, reference: TWA TWX No. 7-20 dated 9 July 1958
(Cannady to Eastland)

REASON FOR CHANGE: Customer requested, and revision to CCP No. 206.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
QUAR. WT. EMPTY <u>784.0 lb</u>	OPER. WT. EMPTY <u>784.0 lb</u>	<u>770,331</u> INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *
As noted.

<p>NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL</p> <p>ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:</p>	<p>ENGINEERING APPROVAL</p>
--	-----------------------------

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:
----------------------------	---------------------

SPECIAL PROVISIONS:	<p>EFFECT ON PRICE PER AIRPLANE.</p> <p>RECURRING: _____</p> <p>NON-RECURRING: _____</p> <p>TOTAL: _____</p>
---------------------	--

ACCEPTED: _____ CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 206A

Title: Ramp Weight and Takeoff Weight, Increase of

Origin: TWA requested, reference: TWA TWX No. 7-20 dated 9 July 1958 (Cannady to Eastland)

Reason for Change: Customer requested, and revision to CCP No. 206.

Description of Change:

Page 19, Paragraph 3.4.1 STRENGTH:

Change the first two listed items as follows:

From: "Maximum taxi weight (lb) 180,000
Maximum takeoff weight (lb) 178,500"

To: "Maximum taxi weight (lb) 185,000 *
Maximum takeoff weight (lb) 184,500"

Enclosure: (A) One copy of C.G. DESIGN LIMITS (for preliminary use only)

Effect on Weight Empty: 484.0 pounds
Effect on Balance: 470,331 inch-pounds
Effect on Performance: As noted.

The following shall not appear in the Specification language:

"Weight increase of 84 lbs is based on C. G. limits shown on Enclosure (A). If the airplane is operated at gross weight above 180,000 lbs, with center of gravity location outside of the indicated limits, heavier tires and main landing gear will be required."

GROSS WEIGHT - POUNDS

185000
180000
170000
160000
150000
140000
130000
120000
110000
100000
90000
80000

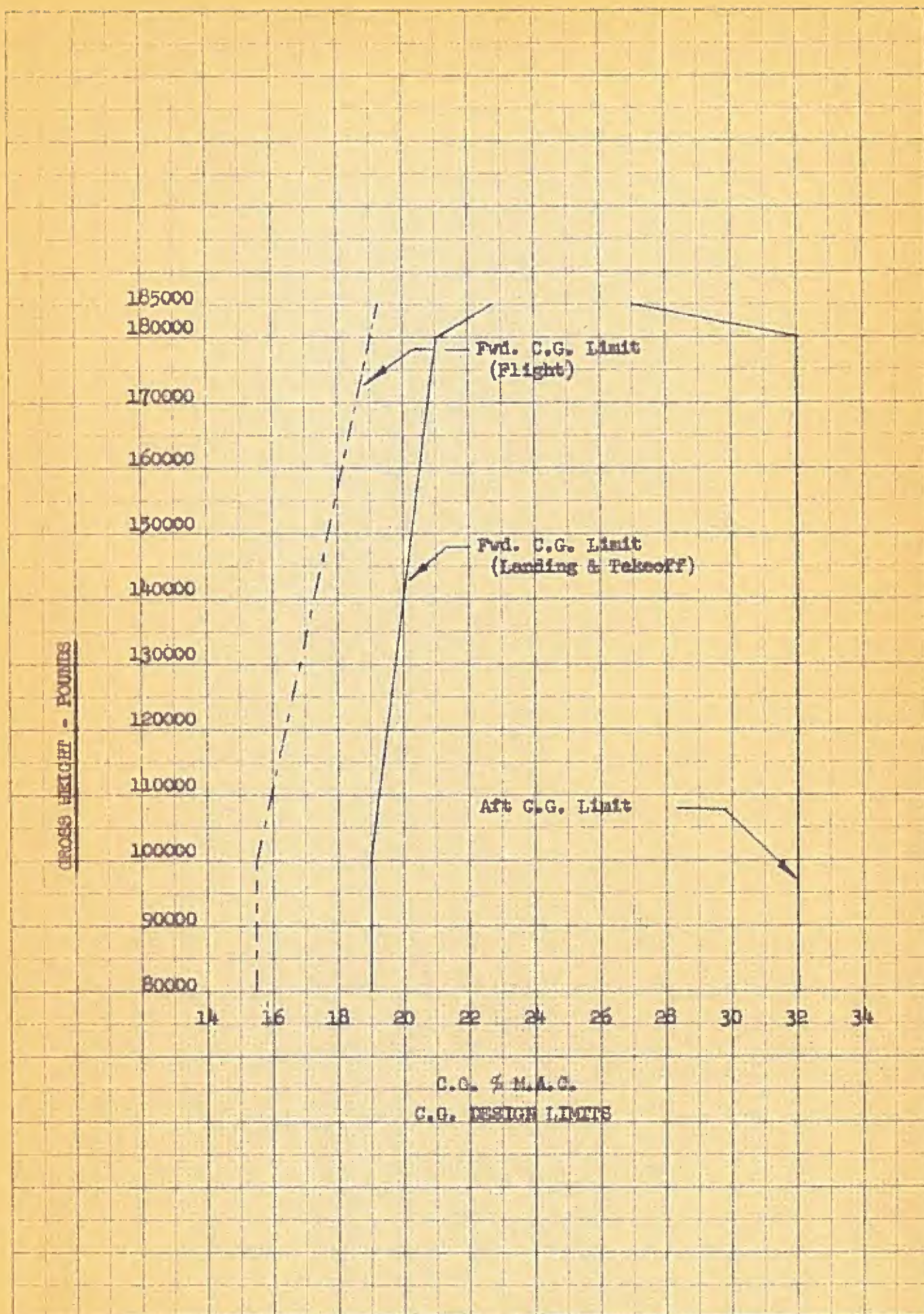
14 16 18 20 22 24 26 28 30 32 34

C.G. & M.A.C.
C.G. DESIGN LIMITS

Fwd. C.G. Limit
(Flight)

Fwd. C.G. Limit
(Landing & Takeoff)

Aft C.G. Limit



CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,280 DTD 7-11-58

CHANGE NO: 205

MODEL: (880) 22-1

TITLE: Portable CO₂ Bottle, Four-Pound in Lieu of Five-Pound

ORIGIN: TWA requested by Letter No. 880-664, dated 2 July 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	
-1.0 lb	-5.0 lb	-1,475 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: * None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL	
ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	
	ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: 7D- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,299 DTD _____

CHANGE NO: 215

MODEL: (880) 22-1

TITLE Specification Administrative Change

ORIGIN: Convair initiated.

REASON FOR CHANGE: To clarify the intent of the Specification.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
GUAR. WT. EMPTY	OPER. WT. EMPTY		
0	0	0	INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *
None

<p>* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL</p> <p>ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:</p>	<p>ENGINEERING APPROVAL</p>
--	-----------------------------

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 205

Title: Portable CO₂ Bottle, Four-Pound in lieu of Five-Pound
Origin: TWA requested by Letter No. 880-664, dated 2 July 1958
Reason for Change: Customer requested.
Description of Change:

Page A21, APPENDIX I-C, FIRE EXTINGUISHER EQUIPMENT:

Change the fourth item in the Description List as follows:

From: "1 Portable CO₂ Bottle (5 lb)"

To: "*1 Portable CO₂ Bottle (Four-lb) Walter Kidde 870905"

Add the following to the bottom of page:

"*Fixed Useful Load"

Effect on Weight

Weight Empty:	-1.0 lb
Useful Load:	-4.0 lb
Operating Weight Empty:	-5.0 lb

Effect on Performance: None

Effect on Balance

-	295 inch-pounds
-	1,180 inch-pounds
-	1,475 inch-pounds

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,207 DTD Rev. 17 June 1958
19 March 1958

CHANGE NO: 204

MODEL: (880) 22-1

TITLE: Specification Administrative Change

Replaces CCP 171B

ORIGIN: TWA TWX 6-35 dated 13 June 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	None INCH LB.
None	None	

EFFECT ON GUARANTEED PERFORMANCE: *

None

<p>* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL</p> <p>ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:</p>	ENGINEERING APPROVAL
--	----------------------

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 204

Title: Specification Administrative Change

Origin: TWA TWX 6-35 dated 13 June 1958

Reason for Change: Customer requested.

Description of Change:

Page 40, Paragraph 3.10.1.5.1 STABILIZER TRIM CONTROL:

Revise the entire paragraph to read as follows:

"STABILIZER TRIM CONTROL: An electrically operated motor and clutch assembly shall be incorporated in the stabilizer trim system to provide control of stabilizer trim by means of switches installed on a knob on the upper part of the outboard horn of the pilot's and co-pilot's control wheels. Switches shall be installed at an angle inclined forward of the vertical. The switches shall be of the slide contact type and shall operate up and forward for nose down trim and down and aft for nose up trim. An override switch shall be provided on the pedestal, adjacent to the stabilizer hydraulic cutoff, capable of disconnecting all power to the electric stabilizer trim system. This switch shall be guarded in the "on" position.

Effect on Weight Empty: None
Effect on Balance: None
Effect on Performance: None

CONVATER
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVATER S.D. 6-12-58 (9/24/58)

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

NCL 10,273 Dtd 30 June 1958

CHANGE NO: 203

MODEL: (880) 22-1

TITLE: Spare Wiring in Electronic Racks, Installation of

ORIGIN: TWA requested by Letter No. 8805-180, dated 3 June 1958; and
TWA TWX dated 26 June 1958.

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVATER, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 203

Page 1 of 2

Title: Spare Wiring in Electronic Racks, Installation of

Origin: TWA requested by Letter No. 880S-180, dated 3 June 1958; and
TWA TWX dated 26 June 1958.

Reason for Change: Customer requested.

Description of Change:

This change has no effect on Specification language.

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

The following is not to appear in the Specification language:

- a. Rework of shelf "B" internal harness 22-32842 by adding one wire from pin 41 of equipment unit plug to terminal 14 of terminal strip 15.
- b. Rework of shelf "B" internal harness 22-32840 by moving wire from pin 17 of bottom equipment unit plug to pin 21 of bottom equipment unit plug.
- c. Rework of shelf "B" internal harness 22-32845 by adding one wire from pin 17 of equipment unit plug to terminal strip.
- d. Rework of shelf "A" internal harness 22-32809 by moving wire from pin 6 of equipment unit plug to pin 9 of equipment unit plug R/T unit.
- e. Rework of shelf "C" internal harness 22-32806 by moving wire from pin 6 of equipment unit plug to pin 21 of equipment unit plug. Move wire from pin 33 of equipment unit plug to pin 22 of equipment unit plug.
- f. Rework of DMET No. 1 control panel harness 22-31841 by changing two wires in control panel plug.
- g. Rework of Selcal harness 22-32959 by adding one wire from equipment unit plug to audio "J" box.

CONVALA: SD

Hughes Tool Company
Change No. 203

Page 2 of 2

- h. Rework of weather radar antenna harnesses 22-31803 and 22-31801 by moving wire from pin X to pin Y of connector.
- i. Rework of weather radar indicator harness 22-31800 by moving wire from pin 10 to pin 8, and pin 21 to pin 19 of indicator plug.
- j. Rework of DMET No. 2 control panel harness 22-31961 by changing two wires in control panel plug.
- k. Rework of ATC beacon control harness 22-31805 by changing two wires in control panel plug.

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,279 DTD _____

CHANGE NO: 202

MODEL: (880) 22-1

TITLE: Bendix Harmonic Drive Servo for Auto-Pilot, Installation of
Rejected

ORIGIN: Convair initiated.

REASON FOR CHANGE: To improve auto-pilot servo drive, and to reduce weight.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY -32.0 lb	OPER. WT. EMPTY -32.0 lb	-33,739 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: * None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL	
ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 202

Title: Bendix Harmonic Drive Servo for Auto-Pilot, Installation of

Origin: Convair initiated.

Reason for Change: To improve auto-pilot servo drive, and to reduce weight.

Description of Change:

Page A-9, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change the fifth item under "AUTO-PILOT" as follows:

<u>From:</u>	"3 Servo, Surface	Eclipse-Pioneer	15653-1-A"
<u>To:</u>	"3 Servo, Harmonic Drive	Eclipse-Pioneer"	

Effect on Weight Empty:	-32.0 pounds
Effect on Balance:	-33,739 inch-pounds
Effect on Performance:	None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,274 DTD Revised 2 September 1958

CHANGE NO: 201A

MODEL: (880) 22-1

TITLE: John Oster Flight Instruments, Installation of/or Provisions for
Rejected

ORIGIN: Delta requested and Convair proposed for TWA

REASON FOR CHANGE: To provide automatic flight data computation to aid crew in obtaining improved flight operations, and to provide pilots with accurate take-off information, and revision to CCP No. 201.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY <u>See Attached Sheet</u>	INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL	
ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:
----------------------------	---------------------

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE: RECURRING: _____ NON-RECURRING: _____ TOTAL: _____
---------------------	---

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

WEIGHT DATAPROPOSAL "A"

Effect on Guaranteed Weight Empty:	✓16.0 pounds
Effect on Operating Weight Empty:	✓16.0 pounds
Effect on Balance:	✓3,260 inch-pounds
Effect on Performance:	None

PROPOSAL "B"

Effect on Guaranteed Weight Empty:	✓3.0 pounds
Effect on Operating Weight Empty:	✓3.0 pounds
Effect on Balance:	✓752 inch-pounds
Effect on Performance:	None

PROPOSAL "C"

Effect on Guaranteed Weight Empty:	✓16.0 pounds
Effect on Operating Weight Empty:	✓16.0 pounds
Effect on Balance:	✓3,260 inch-pounds
Effect on Performance:	None

PROPOSAL "D"

Effect on Guaranteed Weight Empty:	✓50.0 pounds
Effect on Operating Weight Empty:	✓50.0 pounds
Effect on Balance:	✓13,183 inch-pounds
Effect on Performance:	None

PROPOSAL "E"

Effect on Guaranteed Weight Empty:	✓16.0 pounds
Effect on Operating Weight Empty:	✓16.0 pounds
Effect on Balance:	✓3,925 inch-pounds
Effect on Performance:	None

PROPOSAL "F"

Effect on Guaranteed Weight Empty:	✓51.0 pounds
Effect on Operating Weight Empty:	✓51.0 pounds
Effect on Balance:	✓13,735 inch-pounds
Effect on Performance:	None

CONVAIR: SD

Hughes Tool Company
Change No. 201A

Page 1 of 8

Title: John Oster Flight Instruments, Installation of/or Provisions
for

Origin: Delta requested and Convair proposed for TWA

Reason for Change: To provide automatic flight computation to aid crew
in obtaining improved flight operations, and to provide pilots with accurate take-off information; and
revision to CCP No. 201.

Description of Change:

PROPOSAL "A"

(Climb, Cruise and Approach System Provisions)

Add the following paragraph to a continued page 61:

"3.14.3.11 CLIMB, CRUISE AND APPROACH SYSTEM, PROVISIONS: Complete provisions shall be made for the later installation of a climb, cruise and approach system consisting of the following:

- a. 1 Altitude Transducer (Oster AX-112-0000-000)
- b. 1 Control Panel (Oster 9950-02)
- c. 1 Computer (Oster 9823-06)
- d. 2 Indicator, Airspeed (Kollsman)
(incorporating command
speed index)
- e. 1 Fuel Quantity Totalizer (Simmonds 393013-04643)"
Indicator

Effect on Weight Empty: 16.0 pounds
Effect on Balance: 3,260 inch-pounds
Effect on Performance: None

PROPOSAL "B"

(Safe Take-Off)

Add the following paragraph to a continued page 61:

"3.14.3.11 SAFE TAKE-OFF INDICATION SYSTEM, PROVISIONS: Complete provisions shall be made for the later installation of a safe take-off indication system consisting of the following:

- a. 2 Indicator, Airspeed (Kollsman)
(incorporating command speed index)
- b. 1 Control Panel (Oster)

Effect on Weight Empty: 43.0 pounds
Effect on Balance: 4752 inch-pounds
Effect on Performance: None

PROPOSAL "C"

(Climb, Cruise and Approach System Provisions, and
Safe Take-Off Provisions)

Add the following paragraphs to a continued page 61:

- "3.14.3.11 CLIMB, CRUISE AND APPROACH SYSTEM, PROVISIONS: Complete provisions shall be made for the later installation of a climb, cruise and approach system consisting of the following:
- a. 1 Altitude Transducer (Oster AX-112-0000-000)
 - b. 1 Control Panel (Oster 9950-02)
 - c. 1 Computer (Oster 9823-06)
 - d. 1 Fuel Quantity Totalizer (Simmonds 393013-04643)"
Indicator
- "3.14.3.12 SAFE TAKE-OFF INDICATION SYSTEM PROVISIONS: Complete provisions shall be made for the later installation of a safe take-off indication system consisting of the following:
- a. 2 Indicator, Airspeed (Kollsman)
(incorporating command speed index)
 - b. 1 Control Panel (Oster)"

Effect on Weight Empty: 16.0 pounds
Effect on Balance: 3,260 inch-pounds
Effect on Performance: None

PROPOSAL "D"

(Climb, Cruise and Approach System)

Page 56, Paragraph 3.14.1.1 PILOT'S INSTRUMENTS:

Revise the fourth item in the instrument list as follows:

From: "One airspeed-angle-of-attack indicator"

To: "One indicator, airspeed (incorporating command speed index)"

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Revise the second item in the instrument list as follows:

From: "One airspeed-angle-of-attack indicator"

To: "One indicator, airspeed (incorporating command speed index)"

Page 58, Paragraph 3.14.1.5 MISCELLANEOUS INSTRUMENTS:

Add the following item to the miscellaneous instrument list:

"One computer (climb, cruise and approach system)"

Add the following paragraph to a continued page 61:

"3.14.3.11 CLIMB, CRUISE AND APPROACH SYSTEM: A climb, cruise and approach system shall be installed, to indicate to the pilot, the best climb and approach speeds; and in the cruise mode, to indicate range and flight time remaining for the various types of cruise conditions."

Page A-10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Revise the second item under "Kollsman Integrated Instrument System" as follows:

<u>From:</u>	"2	Airspeed-Angle of Attack Indicator	Kollsman	B25685-10 plus range markings"
	2	Indicator, Airspeed (incorporating command speed index)	Kollsman	(P/N to be supplied)"

PROPOSAL "D" (Cont)

(Climb, Cruise and Approach System)

Revise the 21st item on page A-10 as follows:

<u>From:</u>	"1 Fuel Quantity Totalizer Indicator	Simmonds	393013-01643"
	"1 Fuel Quantity Totalizer Indicator	Simmonds	393013-04643"

Add the following items under "Kollsman Integrated Instrument System":

"1	Altitude Transducer	Oster	AX-112-0000-000
1	Control Panel (climb, cruise and approach system)	Oster	9950-02
1	Computer	Oster	9823-06"

Revise the "PILOT'S AND COPILOT'S INSTRUMENT PANELS" illustration to reflect the above changes.

Effect on Weight Empty:	4 50.0 pounds
Effect on Balance:	4 13,183 inch-pounds
Effect on Performance:	None

PROPOSAL "E"

(Safe Take-Off)

Page 56, Paragraph 3.14.1.1 PILOT'S INSTRUMENTS:

Revise the fourth item in the instrument list as follows:From: "One airspeed-angle-of-attack indicator"To: "One indicator, airspeed (incorporating command speed index)"

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Revise the second item in the instrument list as follows:From: "One airspeed-angle-of-attack indicator"To: "One indicator, airspeed (incorporating command speed index)"Add the following paragraph to a continued page 61:

"3.14.3.11 SAFE TAKE-OFF INDICATION SYSTEM: A safe take-off indication system shall be installed to indicate take-off progress to the pilots, and to indicate the existence of a malfunction which could prevent the airplane from achieving a safe take-off speed."

Page A-10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Revise the second item under "Kollsman Integrated Instrument System" as follows:

<u>From:</u>	"2 Airspeed-Angle-of Attack Indicator	Kollsman	B25685-10 plus range markings"
--------------	--	----------	-----------------------------------

<u>To:</u>	"2 Indicator, Airspeed (incorporating command speed index)	Kollsman	(P/N to be supplied)"
------------	--	----------	-----------------------

Add the following item under "Kollsman Integrated Instrument System":

"1 Control Panel (safe take-off system) Oster (P/N to be supplied)"

Revise "PILOT'S AND COPILOT'S INSTRUMENT PANELS" illustration to reflect the above change.

Effect on Weight Empty:	416.0 pounds
Effect on Balance:	43,925 inch-pounds
Effect on Performance:	None

PROPOSAL "F"

(Climb, Cruise and Approach System, and Safe Take-Off System)

Page 56, Paragraph 3.14.1.1 PILOT'S INSTRUMENTS:

Revise the fourth item in the instrument list as follows:

From: "One airspeed-angle-of-attack indicator"

To: "One indicator, airspeed (incorporating command speed index)"

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Revise the second item in the instrument list as follows:

From: "One airspeed-angle-of-attack indicator"

To: "One indicator, airspeed (incorporating command speed index)"

Add the following paragraphs to a continued page 61:

"3.14.3.11 CLIMB, CRUISE AND APPROACH SYSTEM: A climb, cruise and approach system shall be installed, to indicate to the pilot, the best climb and approach speeds; and in the cruise mode, to indicate range and flight time remaining for the various types of cruise conditions."

"3.14.3.12 SAFE TAKE-OFF INDICATION SYSTEM: A safe take-off indication system shall be installed to indicate take-off progress to the pilots and to indicate the existence of a malfunction which could prevent the airplane from achieving a safe take-off speed."

Page 58, Paragraph 3.14.1.5 MISCELLANEOUS INSTRUMENTS:

Add the following item to the miscellaneous instrument list:

"One computer (climb, cruise and approach system)"

Page A-10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Revise the second item under "Kollsman Integrated Instrument System" as follows:

PROPOSAL "F" (Cont)

(Climb, Cruise and Approach System, and Safe Take-Off System)

<u>From:</u>	"2	Airspeed-Angle-of Attack Indicator	Kollsman	B25685-10 plus range markings"
	2	Indicator, Airspeed (incorporating command speed index)	Kollsman	(P/N to be supplied)"

Revise the 21st item on page A-10 as follows:

<u>From:</u>	"1	Fuel Quantity Totalizer Indicator	Simmonds	393013-01643"
<u>To:</u>	"1	Fuel Quantity Totalizer Indicator	Simmonds	393013-04643"

Add the following items under "Kollsman Integrated Instrument System":

"1	Altitude Transducer	Oster	AX-112-0000-000
1	Control Panel (climb, cruise and approach system)	Oster	(P/N to be supplied)
1	Computer	Oster	9823-06"

Revise PILOT'S AND COPILOT'S INSTRUMENT PANELS" illustration to reflect the above changes.

Effect on Weight Empty:	451.0 pounds
Effect on Balance:	413,735 inch-pounds
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-12-57 (3/14/58)

SPEC NO: ZD-22-00 2 DATE: _____
CUSTOMER: Hughes Tool Company NCL 10,272 Dtd _____
CHANGE NO: 200 MODEL: (880) 22- 1

TITLE: **Separate Colors and Fabrics for the Club Area**

ORIGIN: **TWA Comments, Color Module Review 8-9 May 1958**

REASON FOR CHANGE: **Customer requested.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:
CCP No. 170.

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 200

Page 1 of 2

Title: Separate Colors and Fabrics for Club Area

Origin: TWA Comments Color Module Review 8-9 May 1958

Reason for Change: Customer requested.

Description of Change:

The following not to be a part of the Detail Specification language, but the intent will be incorporated into the Interior Finish Specification 22-00004-1 in the next revision on Customer acceptance of this change.

The Customer has requested that their airplane be divided into six lots of five and that each lot shall have different color schemes in the club area. Color renderings and color chips for each version shall be furnished by the Customer in time to meet need date schedule. If for any reason this information is not available to meet the below quoted schedule for any of the airplane lots, the affected airplanes shall receive the identical color schemes released for Lot No. 1.

Convair will vary color schemes but shall retain the original vendor and material for the items noted below.

The following are items to vary in color scheme changes:

Materials

Vendor

Rug		Firth
Seat Covering		C and A
Seat Shell	(Painted)	
Wainscoting	{ Vinyl }	
Hatracks	{ Vinyl }	
Table Top	(Formica)	
Fwd and Aft Partition Covering		Poly-plastex

CONVAIR: SD

Hughes Tool Company
Change No. 200

Page 2 of 2

The six lots of five airplanes shall be divided as follows:

<u>Lot No.</u>	<u>TWA Ship No.</u>	<u>Engr. Need Date for TWA Info.</u>	<u>Material Need Date for Engr.</u>
1	1 - 5		Basic for first 5
2	6 - 10	9-15-58	12-15-58
3	11 - 15	1-28-59	4-28-59
4	16 - 20	2-14-59	5-14-59
5	21 - 25	7- 9-59	10- 9-59
6	26 - 30	9-15-59	12-15-59

"Color scheme variation mock-up for this change shall not be provided."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,271 DTD 17 June 1958

CHANGE NO: 199A

MODEL: (880) 22-1

TITLE: Flight Deviation Indicator, Revision To

ORIGIN: Reference: TWA Letter No. 880-566 dated 26 March 1958 on Cockpit Lighting Mock-Up Comments.

REASON FOR CHANGE: Customer requested and to meet CAA Requirement; and revision to CCP No. 199.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	Negligible INCH LB.
<u>2.0 lb</u>	<u>2.0 lb</u>	

EFFECT ON GUARANTEED PERFORMANCE: * None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL	ENGINEERING APPROVAL
ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

Title: Flight Deviation Indicator, Revision To

Origin: Reference: TWA Letter No. 880-566 dated 26 March 1958 on
Cockpit Lighting Mock-Up Comments

Reason for Change: Customer requested and to meet CAA Requirement; and
revision to CCP No. 199.

Description of Change:

Page 56, Paragraph 3.14.1.1 PILOT'S INSTRUMENTS:

Change the seventh and tenth items in the equipment list as follows:

From: "One flight director (remote artificial horizon)"
"One flight path indicator"

To: "One horizon director indicator"
"One course deviation indicator"

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Change the sixth and eighth items in the equipment list as follows:

From: "One flight director (remote artificial horizon)"
"One flight path indicator"

To: "One horizon director indicator"
"One course deviation indicator"

Page A-9, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Bendix Flight Director System:

Change the following equipment:

From: "2 Course Deviation Indicator Eclipse-Pioneer 7227-3A-12-A1"

To: "2 Course Deviation Indicator Eclipse-Pioneer "

Effect on Weight Empty: 2.0 pounds
Effect on Balance: Negligible
Effect on Performance: None

The following not to be a part of the Specification language:

"The course deviation indicator shall be revised to comply with item 3 of the Customer's Cockpit Lighting Mock-Up Comments 2 April 1958 which requested the installation of an internal lighted course counter for both the Pilot's and Co-pilot's indicators. In addition to the light, a power failure flag shall also be included to meet CAA requirements for Power Failure Indication in the Compass System."

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-1217 (3/26/58)

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

NCL 10,267 Dtd 29 May 1958

CHANGE NO: 198

MODEL: (880) 22-1

TITLE: Copilot's Clock, Change of

ORIGIN: TWA requested by Letter No. 880-618 dated 21 May 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+1.0 lb

+1.0 lb

+20+

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 198

Title: Copilot's Clock, Change of

Origin: TWA requested by Letter No. 880-618 dated 21 May 1958

Reason for Change: Customer requested.

Description of Change:

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Delete the twelfth item in the instrument list as follows:

"One terrain warning indicator light assembly"

Page A-8, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change the first item in the Description List as follows:

From: "3 Clock Elgin 2153W GRD. 690"

To: "2 Clock Elgin 2153W GRD. 690"

Add the following new item to the Description List:

"1 Clock (Copilot's) Wakmann Model No. 640-12-10"

Figure 3.14-1 PILOT'S AND COPILOT'S INSTRUMENT PANELS:

Revise figure as required to reflect the above change.

Effect on Weight Empty: ~~1.0~~ pound
Effect on Balance: ~~204~~ inch-pound
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,270 DTD 12 June 1955

CHANGE NO: 197

MODEL: (880) 22-1

TITLE: Specification Administrative Change (Miscellaneous Specification Revisions)

ORIGIN: Convair initiated

REASON FOR CHANGE: See body of this CCP

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	
0	0	0 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: * None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL	
ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	
	ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 197

Page 1 of 2

Title: Specification Administrative Change (Miscellaneous Specification Revisions)

Origin: Convair initiated.

Reason for Change: See body of this CCP.

Description of Change:

Page 5, Paragraph 1.1 BASIC TYPE:

In the second paragraph from top of page, add the following after the first sentence:

"The following access door hinges may be installed with lock-nuts:

Wing lower trailing edge door

Tail cone door

Fuselage aft tail structure door (between aft bulkhead and tail cone)

Page 7, Paragraph 1.1 BASIC TYPE:

Delete the following top item from the page:

"All heat exchangers (except removal of adjacent duct sections)"

Page 31, Paragraph 3.7.1.6.3 PASSENGER COMPARTMENT FLOORING:

Delete the following words, starting in the 11th line:

"..... of underseat panels and those panels which need not be removed for servicing."

Page 25, Paragraph 3.12.9.13.2 EMERGENCY REFUELING:

In the second sentence, change "200 gpm" to "150 gpm"

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

The following shall not appear in the Specification language, and is presented as explanatory information for the proposed changes to the below items:

a. Page 5, Paragraph 1.1 BASIC TYPE:

All fasteners necessary to open doors for normal access shall be held with anchor nuts. Hinges on access doors will not require anchor nuts since both screws and nuts are readily accessible.

b. Page 7, Paragraph 1.1 BASIC TYPE:

The design installation of the heat exchangers is such that before removal, other components consisting of air ducting, wiring, etc., would require prior removal. This Specification Change is required to retain a single heat exchanger design for both air conditioning systems. Convair's previous experience with similar type heat exchangers indicates long service life with only rare cases where removal of units was required to effect servicing.

c. Page 31, Paragraph 3.7.1.6.3 PASSENGER COMPARTMENT FLOORING:

The second sentence applies specifically to "the floors in the heavy traffic areas (entry ways, galley, aisle and lavatories)", the words "of underseat panels and those panels which need not be removed for servicing" apply to panels other than those listed above. Since the last sentence of this paragraph includes the requirements for these "light duty" panels, deletion is proposed for the words "of underseat panels and those panels which need not be removed for servicing".

d. Page 53, Paragraph 3.12.9.13.2 EMERGENCY REFUELING:

Tests have established that the fueling rate of "200 gpm" now specified is not attainable with the present emergency refueling provisions. To attain this figure, revisions will be required which we believe would not be consistent with the advantages gained. It is thereby proposed that the fueling rate for this system be reduced from "200 gpm" to "150 gpm".

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6 1217 (3/22/57)

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company PCL 10,269 Dtd _____
CHANGE NO: 196 MODEL: (880) 22-1

TITLE: Specification Administrative Change

ORIGIN: Convair initiated.

REASON FOR CHANGE: To correct and clarify the intent of the Specification.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

None

None

None

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 196

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To correct and clarify the intent of the Specification.

Description of Change:

Page A-8, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change the below listed item in the Description List as follows:

From: "One Air Bottle, 3000 psi, 800-Cubic Inch Capacity
(with pressure gage)"

To: "One Air Bottle, 3000 psi, 400-Cubic Inch Capacity
(with pressure gage)"

Effect on Weight Empty: None

Effect on Balance: None

Effect on Performance: None

The following is not to appear in Specification language:

CCP No. 101A, which was approved by Customer, erroneously specified an 800-cubic inch capacity air bottle in the emergency brake system instead of 400-cubic inch capacity system designed air bottle. It is the intent of this proposal to correct the Specification accordingly.

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-1211 (3/14/58)

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,260 Dtd 16 May 1958

CHANGE NO: 195

MODEL: (880) 22-1

TITLE: Landing Flare Provisions, Deletion of

ORIGIN: TWA requested, Reference: Telecon E. E. Cannady of TWA to C. O. Roberts of Convair on 13 May 1958.

REASON FOR CHANGE: Customer requested, and supplement to CCP No. 180.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-13.0 lb

-13.0 lb

-13,863 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 195

Title: Landing Flare Provisions, Deletion of

Origin: TWA requested, Reference: Telecon E. E. Cannady of TWA to
C. O. Roberts of Convair on
13 May 1958.

Reason for Change: Customer requested, and supplement to CCP No. 180.

Description of Change:

Page 73, Paragraph 3.16.7.7.5 FLARE DISPENSERS:

After paragraph title add: "(Not Applicable)", and delete the remainder of the paragraph.

Page 110, Paragraph 3.19.2.7.1 FLARE DISPENSERS:

After paragraph title add "(Not Applicable)", and delete the remainder of the paragraph.

Page A-19, APPENDIX I-C, PYROTECHNICS:

Add "(Not Applicable)" after "PYROTECHNICS"

Delete the following item:

"2 Flare Dispenser 13.0 lb"

Delete the following from left hand margin of page: "13/19D"

Effect on Weight Empty: -13.0 pounds
Effect on Balance: -13,863 inch-pounds
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,262 DTD _____

CHANGE NO: 193A

MODEL: (880) 22-1

TITLE: Kits for Conversion of 12-Place Club Area, (Excluding Seats)

ORIGIN: Convair initiated

REASON FOR CHANGE: To provide for alternate seating arrangement.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY	OPER. WT. EMPTY	INCH LB.
See weight statement at end of CCP.		

EFFECT ON GUARANTEED PERFORMANCE: *

None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL	ENGINEERING APPROVAL
ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	RECURRING: _____
	NON-RECURRING: _____
	TOTAL: _____

ACCEPTED: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

Title: Kits for Conversion of 12-Place Club Area (Excluding Seats)

Origin: Convair Initiated.

Reason for Change: To provide for alternate seating arrangement.

Description of Change:

Page 107, add the following new paragraph to the page, after paragraph 3.19.1.1.7:

"3.19.1.1.7.1 CONVERSION KITS: Kits for conversion of the 12-place club area shall be provided as loose equipment for installation by the Buyer. The conversion kits shall include the trim strip, left and right hand hat racks for five-abreast seating, passenger convenience pods, carpet, sidewall and floor seat attach fittings. Alternate light fixtures shall be provided in the club area overhead when the club area is converted to first class or coach".

The following is not to appear in the Specification language:

The below is a detailed description of the items which are included in the conversion kit:

- A. A 2-inch wide trim strip, to be installed in the remaining trim gap when the partition between club area and main cabin is removed.
- B. Left and right hand hat racks for use with five-abreast seating arrangement including three passenger convenience pods for installation in each hat rack. The pods shall include the following:

RIGHT HAND:

3 Oxygen Masks
2 Gaspers
2 Reading Lights and Switches
1 Stewardess Call Button

LEFT HAND:

3 Oxygen Masks
3 Gaspers
3 Reading Lights and Switches
1 Stewardess Call Button

C. Carpet, to match main cabin carpet.

D. Sidewall seat attach fittings and floor seat attach fittings identical to those in the main cabin.

WEIGHT SUMMARY: (for information only)

Total Weight of Items Removed:	} Dependent upon Customer Configuration option.
Total Weight of Items Added:	
Total Weight Change:	

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-1217 (2/14/55)

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company PCL 10,259 Dtd _____
CHANGE NO: 191 MODEL: (880) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated.**

REASON FOR CHANGE: **To clarify the intent of the Specification.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 191

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 113, Paragraph 3.19.3.3 TRIM:

Change the period at the end of second sentence to a comma and
add the following:

"except for the panels above the cabin hat racks which shall
not exceed approximately 15 feet."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-1217 (3/24/57)

SPEC NO: ZD-22-00 2

DATE: _____

CUSTOMER: Hughes Tool Company

NCL 10,258 Dtd _____

CHANGE NO: 190

MODEL: (880) 22-1

TITLE: Specification Administrative Change

ORIGIN: Convair initiated.

REASON FOR CHANGE: To clarify the intent of the Specification.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty
0

Oper. Wt. Empty
0

Negligible Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 190

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 116, Paragraph 3.19.4.3.2 WATER FIRE EXTINGUISHER:

Revise the paragraph to read as follows:

"Three water fire extinguishers shall be provided; one located in the forward entrance area and two on the forward side of the partition immediately forward of the aft entrance way."

Delete paragraph "3.19.4.3.3 PASSENGER COMPARTMENT FIRE EXTINGUISHERS"

Effect on Weight Empty: 0
Effect on Balance: Negligible
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6 12.1 (2/14/58)

SPEC NO: 2D-22-002 DATE: _____
CUSTOMER: Hughes Tool Company ECL 10,251 Dtd 30 April 1958
CHANGE NO: 189 MODEL: (880) 22-1

TITLE: Low Energy Ignition System, Installation of

ORIGIN: Convair initiated.

REASON FOR CHANGE: To increase service life of engine igniting plugs
by installation of a low energy system for starting
under less severe conditions.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+35.0 lbs

+35.0 lbs

+26,688

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 189

Title: Low Energy Ignition System, Installation of

Origin: Convair initiated.

Reason for Change: To increase service life of engine igniting plugs
by installation of a low energy system for starting
under less severe conditions.

Description of Change:

Page 70, add the following new paragraph to the page after paragraph
3.16.9:

"3.16.9.1 LOW ENERGY IGNITION SYSTEM: A secondary, low
energy type ignition system shall be installed
for engine starting under less severe conditions,
to provide selective starting with the high
energy system specified in Par. 3.16.9. Controls
for ignition shall be located in the pilots'
compartment."

Effect on Weight Empty: +35.0 pounds
Effect on Balance: +26,688 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-1211 (2/14/57)

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,256 Dtd 12 May 1958

CHANGE NO: 188

MODEL: (880) 22-1

TITLE: Battery, Change of from 24 to 27.5 Volts

ORIGIN: Convair initiated.

REASON FOR CHANGE: To provide a storage battery of greater voltage to increase operating time of equipment, powered by battery, during an emergency.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 188

Title: Battery, Change of from 24 to 27.5 Volts

Origin: Convair initiated.

Reason for Change: To provide a storage battery of greater voltage to increase operating time of equipment, powered by battery, during an emergency.

Description of Change:

Page 66, Paragraph 3.16.2.3 BATTERIES:

Revise the first sentence to read as follows:

"Battery power of 27.5 volts shall be available."

Page 66, Paragraph 3.16.2.4.2 BATTERY COMPARTMENT FINISH:

Revise paragraph and paragraph title as follows:

"BATTERY AREA FINISH: The battery area shall be painted with electrolyte-resistant paint."

Page A-4 Rev., APPENDIX I-C, ELECTRICAL EQUIPMENT:

Change the 10th item in Description List as follows:

From: "1 Battery, Storage, Nickel-Cadmium"
(24 volt or 2 -12 volt)

To:- "1 Battery, Storage, Nickel-Cadmium, 27.5 volt"

Enclosure: (A) One copy of sketch showing in-flight and ground ventilation of battery area (for information only).

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

The following is not to appear in the Specification language:

This change also relocates the battery from the main wheel well to the pressurized fuselage in the forward nose area. The advantages of this relocation are:

- A. To avoid excessive voltage drop due to low temperatures encountered in the unpressurized main wheel well.
- B. Battery would be subject to considerable less vibration in the proposed location thereby increasing its service life.

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-1217 (2/14/58)

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,249 Dtd 28 April 1958

CHANGE NO: 187

MODEL: (880) 22-1

TITLE: Engine Vibration Indicators, Wiring Provisions for

ORIGIN: TWA requested by Letter No. 880-590, dated 21 April 1958

REASON FOR CHANGE: Customer requested.

Rejected

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+51.0 lbs

+51.0 lbs

+38,159

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 187

Title: Engine Vibration Indicators, Wiring Provision for

Origin: TWA requested by Letter No. 880-590, dated 21 April 1958

Reason for Change: Customer requested.

Description of Change:

Page 43, add the following new paragraph to the page after paragraph 3.11.4:

"3.11.4.1 ENGINE VIBRATION INDICATORS (Wiring Provisions): Wiring provisions shall be installed between each of the four nacelles and the vicinity of the radio rack area to permit the future installation of an engine vibration indicator system. The wiring provisions shall consist of three each twisted double conductor shielded leads for the later installation of three vibration pickups on each engine. The terminations of the wiring at the nacelles and radio rack shall consist of coiling, taping and stowing a reasonable amount of wiring to facilitate the future installation."

Effect on Weight Empty: +51.0 pounds
Effect on Balance: +38,159 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

CONVEIRAL CHANGE PROPOSAL
(CONVEIR 3-D 6 127 (2/1/55))

SYMBOL: 10-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,257 DLD _____
CHANGE NO: 186 MODEL: (880) 22-1

REASON: Specification Administrative Change

ORIGIN: Convair initiated.

REASON FOR CHANGE: To clarify the intent of the Specification.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

DATE OF DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL COMMENTS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

APPROVED:

CONVEIR, A DIV. OF GEN. DYN. CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 186

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 24, Paragraph 3.6.3 ELEVATORS:

Delete the words "interconnected and" in the second line of the first sentence.

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,247 DTD 24 April 1958

CHANGE NO: 185A

MODEL: (880) 22-1

TITLE: Coach Seats, Provision of

ORIGIN: Letter of Agreement No. 8 to Purchase Agreement, dated 20 September 1956, and TWA/Delta/Convair Seat Design Conference of 23 April 1958.

REASON FOR CHANGE: To provide for alternate seating arrangements.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

GUAR. WT. EMPTY

OPER. WT. EMPTY
See weight data at end of CCP.

INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL

ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:

ENGINEERING APPROVAL

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS.

EFFECT ON PRICE PER AIRPLANE:

RECURRING: _____

NON-RECURRING: _____

TOTAL: _____

ACCEPTED.

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 185A

Title: Coach Seats, Provision of

Origin: Letter of Agreement No. 8 to Purchase Agreement, dated 20 September 1956, and TWA/Delta/Convair Seat Design Conference of 23 April 1958.

Reason for Change: To provide for alternate seating arrangements.

Description of Change:

Page 106, add the following new paragraph to the page, after paragraph 3.19.1.1.5.1:

"3.19.1.1.5.2 COACH SEATS: Coach seats shall be furnished to permit an alternate or mixed seating arrangement in the main cabin area. The coach seats shall include the following:

- A. Plug-in type food trays shall be provided for use on the seat row aft of movable coat dividers and/or aft of forward partition. All seats shall contain internal provisions for future installation of plug-in food tray receptacles.
- B. Integral folding type food trays.
- C. Removable plug-in type intermediate arm rests on triple and double coach seats. One intermediate removable arm rest for triple seat shall incorporate recline mechanism and ash receivers for center seat, styled similar to the remaining plug-in arm rests."

Enclosures: (A) One copy of sketch "CONVAIR 880 DOUBLE COACH SEAT", Sheets 1 through 3 (for information only).

(B) One copy of sketch "CONVAIR 880 TRIPLE COACH SEAT", Sheets 1 through 3 (for information only).

Weights (Alternate Load):

1. One row five-abreast seats	140.5 lb
2. One double coach seat, R.H.	57.0 lb
3. One double coach seat, L.H. (one per airplane).....	57.0 lb
4. One triple coach seat	83.5 lb
5. Five plug-in trays for front row of coach seats	10.0 lb
6. Plug-in food tray sockets - loose equipment - per row ...	1.5 lb

EXHIBIT "A"

The following shall not appear in the Specification language:

No mock-up or prototype coach seats have been included in this proposal.

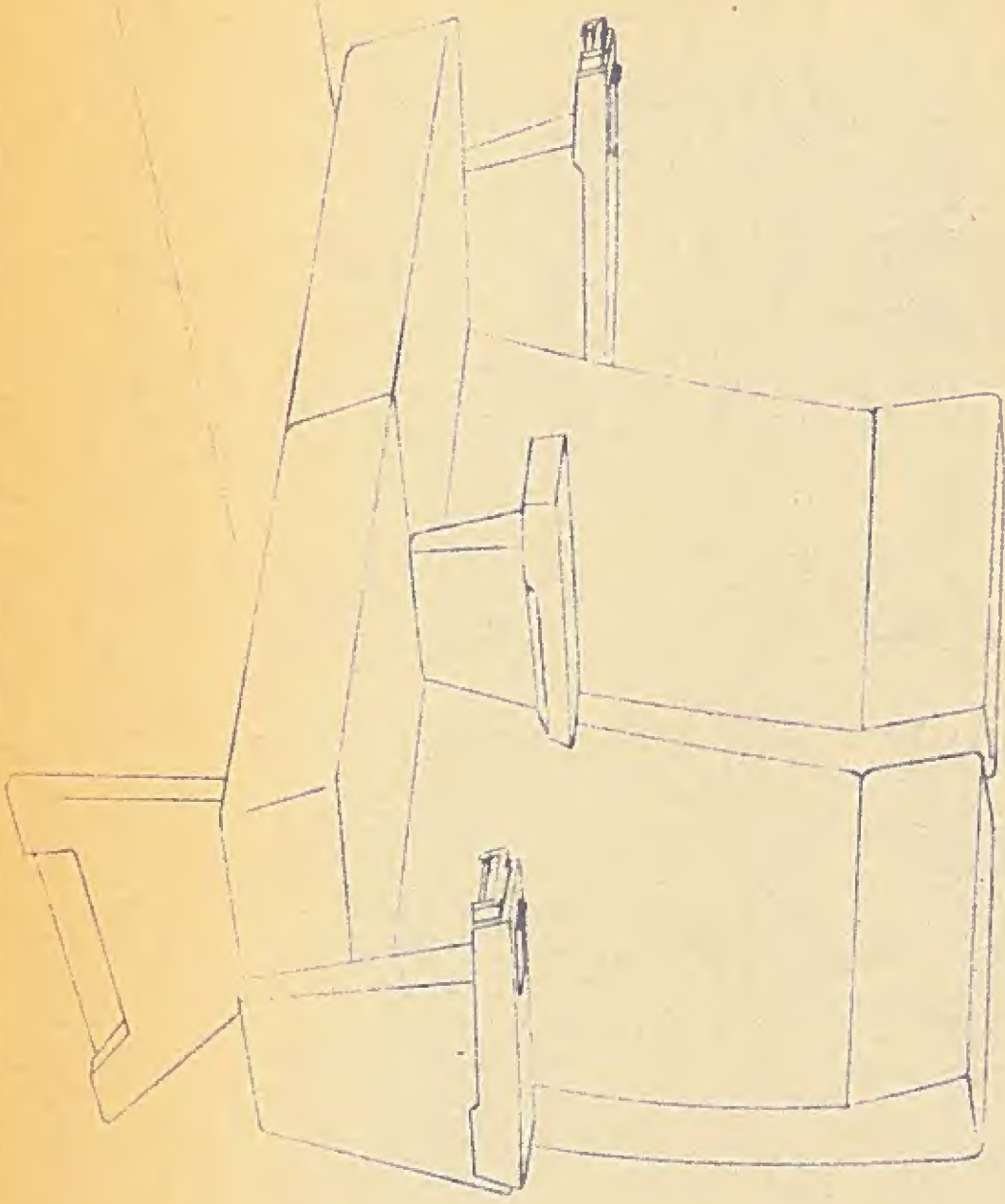
Equipment interchangeability for standard seats, as covered in CCP No. 104B, is also applicable to coach seats.

Item "A" is paragraph 3.19.1.1.5.2 of this proposal, will provide five plug-in trays for first six rows of Customer order per airplane. Five additional plug-in trays will be provided for 18 or more coach seat rows per airplane. Receptacles for plug-in trays shall be provided as loose equipment on all coach seats not having receptacles installed.

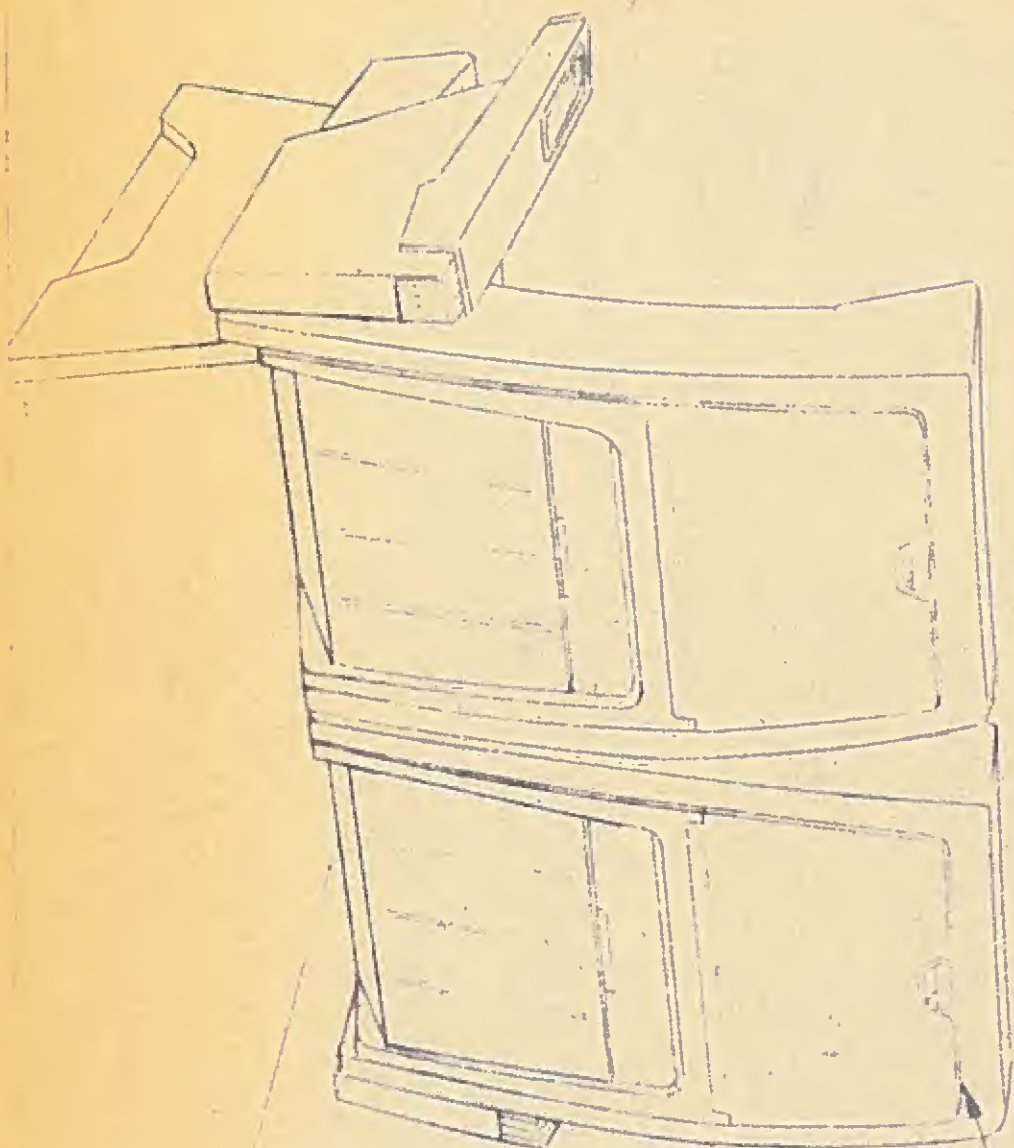
The following parameters shall be used in the coach seat design:

- A. No leg rest mounting provisions
 - B. No foot rest
 - C. No stewardess step
 - D. No crash energy absorber
 - E. No muslin sub-covers
 - F. No adjustable head rest
 - G. Folding food trays will not be interchangeable with standard passenger seat food trays
 - H. 16-oz upholstery fabric
 - I. Literature pockets installed
 - J. Ash trays installed
 - K. 38-degree maximum recline
 - L. Entire construction essentially in accordance with the first class seat except for seat bottom, back and arm rest widths. Seat backs to be same height as standard seats.
 - M. Seat fittings to match existing standard seat airplane attach points.
 - N. Triple seats to be approximately 64-1/2 inches wide overall and double seats to be approximately 44-1/2 inches wide overall.
 - O. Stowage space under each seat shall have a minimum height of ten inches.
 - P. Hydraulic or mechanical recline locks and wide arms will be available. Weights herein reflect mechanical locks and standard arms.
- Kits for conversion of 12-place club area are covered in CCP No. 193A.

Enclosure to CCP No. 185A

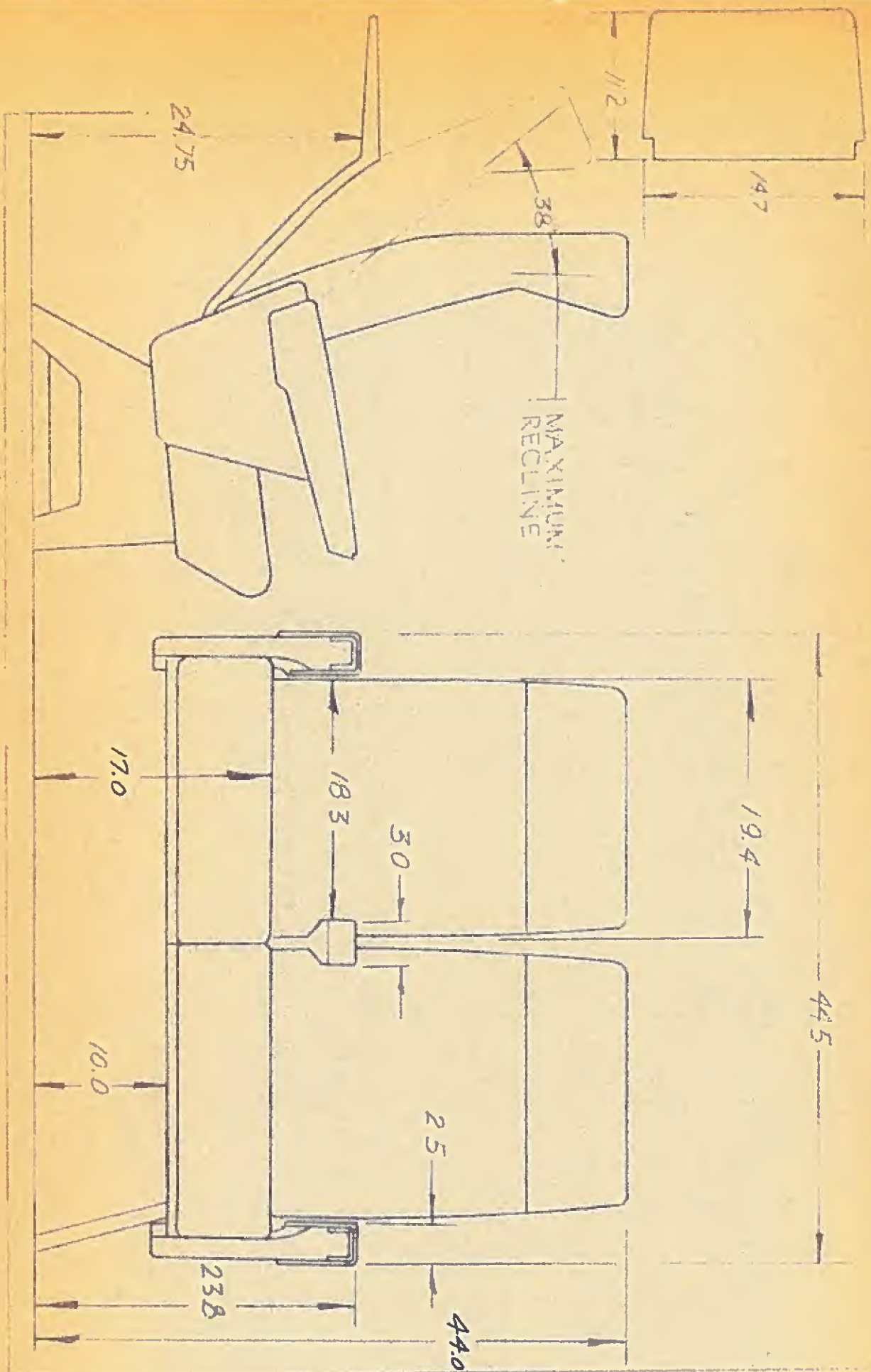


Enclosure to CCP No. 185A



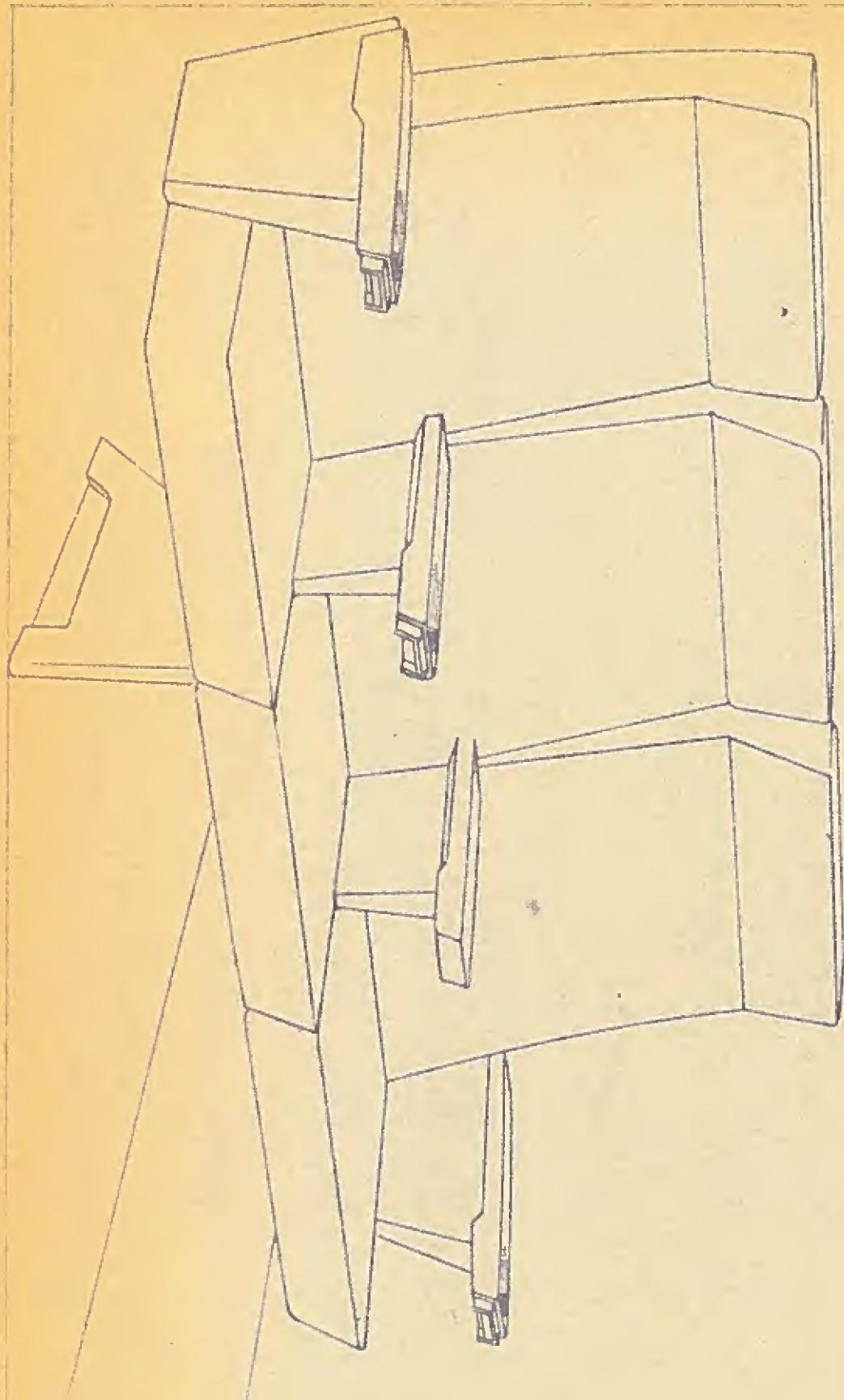
INTEGRAL FOOD
TRAY (OPTIONAL)

CCP No. 185A DOUBLE COACH FOOD TRAY



CONVAIRE 830 DOUBLE COACH SEAT

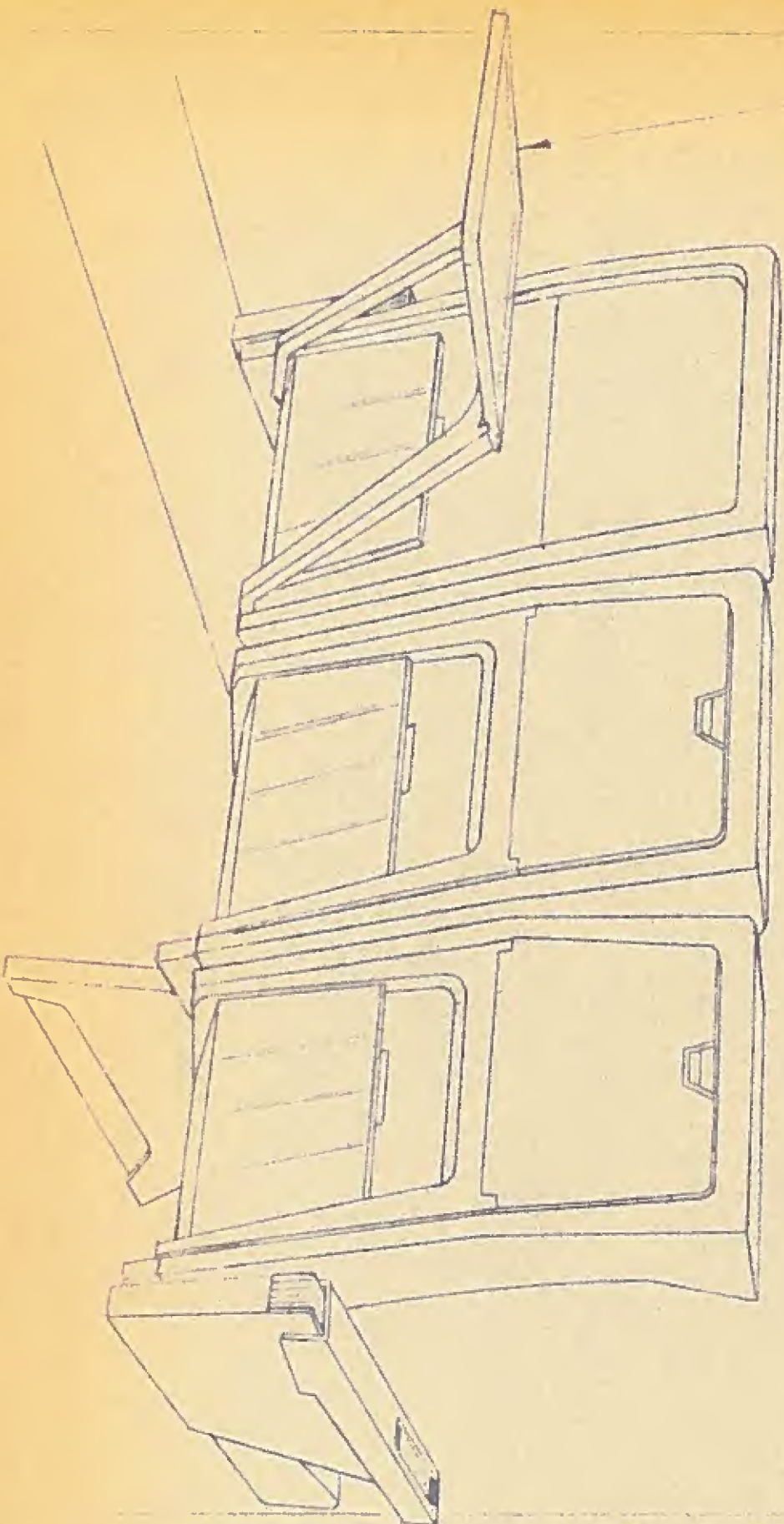
Enclosure to CCP No. 185A



CONVAIR 440 TRIPLE COACH SEAT

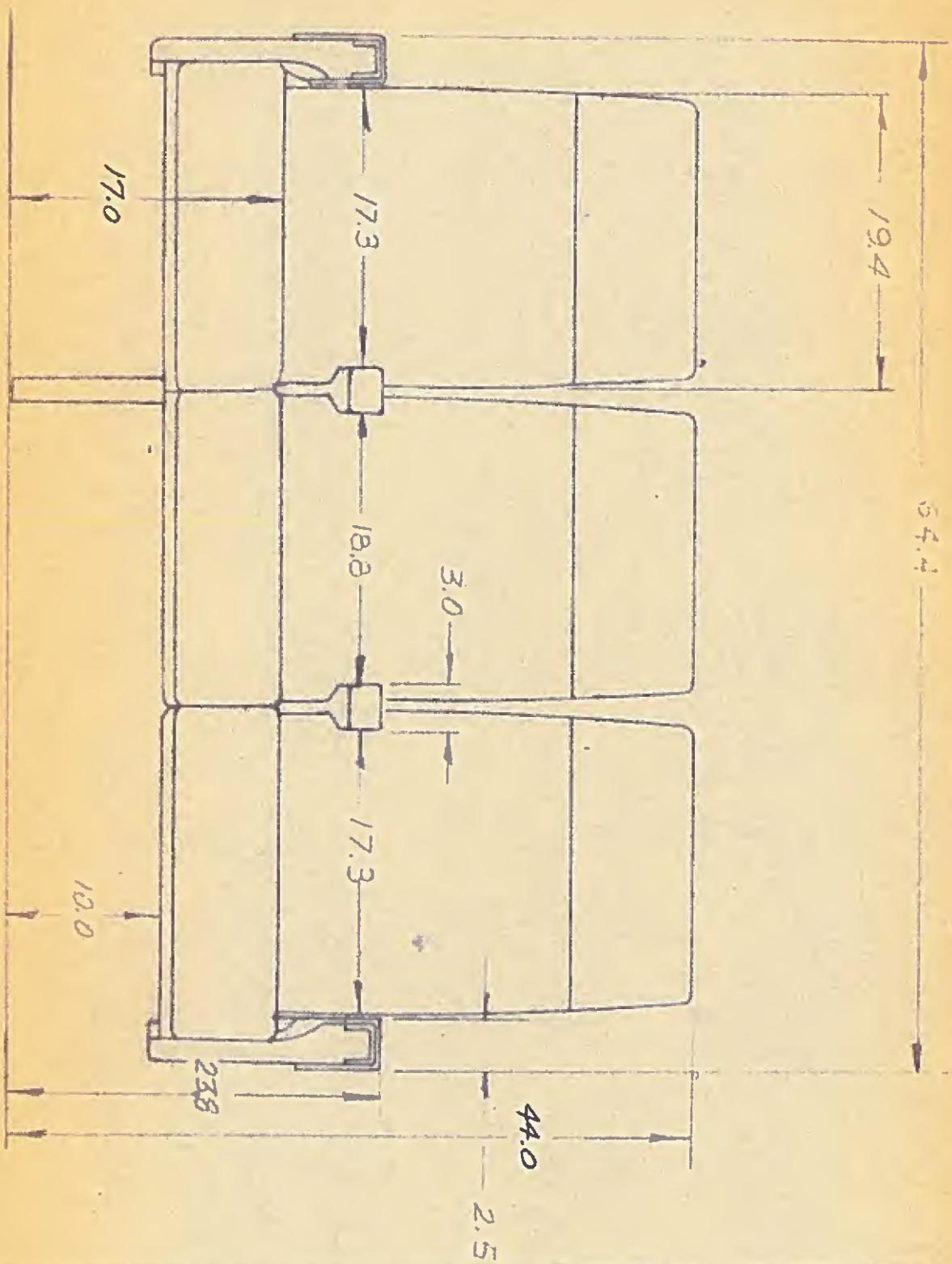
Enclosure to CCP No. 185A

INTEGRAL FOOD TRAY (OPTIONAL)
(NOT INTERCHANGEABLE WITH STANDARD
PASSENGER SEAT TRAY)



CONVAIRE 830 TRIPLE COACH SEAT

Enclosure to CCP No. 185A



CONVAIR 440 TRIPLE COACH SEAT

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL _____ Dtd _____
CHANGE NO: 184 MODEL: (880) 22- 1

TITLE: Specification Administrative Change

ORIGIN: Convair initiated.

REASON FOR CHANGE: To make agreeable with approved cockpit mock-up.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 184

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To make agreeable with approved cockpit mock-up.

Description of Change:

Page 111, Paragraph 3.19.2.8.2 CHECK-OFF LIST:

Delete the words "scroll-type" in first line.

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPRYC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,217 Dtd 27 March 1958

CHANGE NO: 183

MODEL: (880) 22-1

TITLE: Rate of Climb Indicator, Revision to

ORIGIN: TWA requested by TWX No. 3-19 dated 24 March 1958

REASON FOR CHANGE: Customer requested.

Rejected

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Surf. Wt. Empty

Oper. Wt. Empty

Negligible

Negligible

Negligible

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:

Chief of Contract Administration
Commercial

DATE:

CONVAIR: SD

Hughes Tool Company
Change No. 183

Title: Rate of Climb Indicator, Revision to

Origin: TWA requested by TWX No. 3-19 dated 24 March 1958

Reason for Change: Customer requested.

Description of Change:

Page A-8, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change the tenth item in Description List as follows:

From: "1 Cabin Rate of Climb Ind. Kollsman DO-7165-10-001"

To: "1 Cabin Rate of Climb Indicator Pioneer- 1634-6AA-C6-1"
Central

Page A-10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change the 28th item in Description List as follows:

From: "2 Rate of Climb Indicator Kollsman DO-7165-10-001"

To: "2 Rate of Climb Indicator Pioneer- 1634-6AA-C6-1"
Central

Effect on Weight Empty: Negligible
Effect on Balance: Negligible
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,227 Dtd _____
CHANGE NO: 182 MODEL: (880) 22-1

TITLE: Supplementary Fluorescent Lighting on Pilots' Panels

ORIGIN: Delta requested and Convair proposed for TWA

REASON FOR CHANGE: To provide a standby source of high intensity fluo-
rescent lighting, to supplement the normal white incan-
descent lighting, on pilots' panels.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
+4.0 lbs	+4.0 lbs	Negligible Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	Recurring: _____
	Non-Recurring _____
	Total: _____

ACCEPTED: CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
Chief of Contract Administration
DATE: _____ Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 162

Title: Supplementary Fluorescent Lighting on Pilots' Panels

Origin: Delta requested and Convair proposed for TWA

Reason for Change: To provide a standby source of high intensity fluorescent lighting, to supplement the normal white incandescent lighting, on pilots' panels.

Description of Change:

Page 7¹+ (Cont), Paragraph 3.16.3.2.2 INSTRUMENT PANELS: (Lighting)

Add the following sentences to the end of paragraph:

"In addition, high intensity white fluorescent lighting shall be installed on the glare shield to provide increased lighting for the pilot's and co-pilot's panels. Control of these lights shall be by a switch within the white incandescent flood light rheostat, so arranged that when rheostat is turned to maximum position, the fluorescent lights will illuminate and supplement the normal white incandescent lighting."

Effect on Weight Empty: +4.0 pounds
Effect on Balance: Negligible
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,228 Dtd 18 April 1958

CHANGE NO: 181

MODEL: (880) 22-1

TITLE: Increase of Maximum Landing Weight

ORIGIN: TWA requested, Reference: Telecon Parmet and Rourke of TWA and Simons and Roberts of Convair on 18 April 1958.

REASON FOR CHANGE:
Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+80.0 lbs

+80.0 lbs

+70,320 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

As noted.

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 181

Title: Increase of Maximum Landing Weight

Origin: TWA requested, Reference: Telecon Parmet and Rourke of TWA
and Simons and Roberts of Convair
on 18 April 1958.

Reason for Change: Customer requested.

Description of Change:

Page 12, Paragraph 3.1.1.1 GUARANTEED PERFORMANCE:

Change the second item on the page to read as follows:

"CAA landing distance (intended destination) at
sea level over 50 ft obstacle in accordance with
CAR 4b with weight of 132,800 lb ft +5% 6,000"

Change the maximum allowable landing weight of the fourth item
on page as follows:

From: "130,000 lbs"

To: "132,800 lbs"

Page 19, Paragraph 3.4.1 STRENGTH:

Change the design condition of the fourth item as follows:

From: "Maximum landing weight 130,000"

To: "Maximum landing weight (lb) 132,800"

Page A-13, APPENDIX I-C, LANDING GEAR EQUIPMENT:

Change the maximum landing weight, in note on bottom of page,
as follows:

From: "130,000 lbs"

To: "132,800 lbs"

Effect on Weight Empty: +80 pounds
Effect on Balance: +70,320 inch-pounds
Effect on Performance: None

NOTE: The effects of CCP No. 57 are included in this change.

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,224 Dtd 14 April 1958

CHANGE NO: 180

MODEL: (880) 22- 1

TITLE: Landing Flares, Deletion of

ORIGIN: TWA requested by TWX No. 4-8 dated 10 April 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty
-37.0 lbs

Oper. Wt. Empty
-37.0 lbs

-57,572 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 180

Title: Landing Flares, Deletion of

Origin: TWA requested by TWX No. 4-8 dated 10 April 1958

Reason for Change: Customer requested.

Description of Change:

Page A-19, APPENDIX I-C, PYROTECHNICS:

Delete the following item from the Description List:

"2 Flares	37.0 lb	Kilgore	Wiley Type SA8"
-----------	---------	---------	-----------------

Effect on Weight Empty:	-37.0 pounds
Effect on Balance:	-57,572 inch-pounds
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,221 Dtd _____
CHANGE NO: 179 MODEL: (880) 22-1

TITLE: Increase of Maximum Zero Fuel Weight and Maximum Landing Weight

ORIGIN: Convair initiated.

REASON FOR CHANGE: Product improvement.

Rejected

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
+480.0 lbs	+480.0 lbs	+409,152 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

As noted.

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

Title: Increase of Maximum Zero Fuel Weight and Maximum Landing Weight.

Origin: Convair initiated.

Reason for Change: Product improvement.

Description of Change:

Page 12, Paragraph 3.1.1.1 GUARANTEED PERFORMANCE:

Change the maximum allowable landing weight of the fourth item on page as follows:

From: "130,000 lbs"

To: "132,800 lbs"

Page 19, Paragraph 3.4.1 STRENGTH:

Change the design conditions of the third and fourth items as follows:

From: "Maximum zero fuel weight (lb) 113,000"

To: "Maximum zero fuel weight (lb) 117,000"

From: "Maximum landing weight 130,000"

To: "Maximum landing weight (lb) 132,800"

Page A-13, APPENDIX A-C, LANDING GEAR EQUIPMENT:

Change the maximum landing weight, in note on bottom of page, as follows:

From: "130,000 lbs"

To: "132,800 lbs"

Effect on Weight Empty: +480.0 pounds

Effect on Balance: +409,152 inch-pounds

Effect on Performance: As noted.

Note: The effects of CCP No. 57 are included in this change.

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,209 ^{Rev.} Dtd 27 March 1958
CHANGE NO: 178 MODEL: (880) 22-1

TITLE: **Turn and Bank Indicator, Revision to**

ORIGIN: **TWA requested by TWX No. 3-19 dated 24 March 1958**

REASON FOR CHANGE: **Customer requested.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty	Oper. Wt. Empty		
-1.0 lb.	-1.0 lb.	negligible	Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

NONE

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

TITLE: Turn and Bank Indicator, Revision to

ORIGIN: TWA requested by TWX No. 3-19 dated 24 March 1958

REASON FOR CHANGE: Customer requested.

DESCRIPTION OF CHANGE:

Page A-10, Appendix I-C, Instrument and Related Equipment.

Revise the bottom item on page as follows:

From: "2 Turn and Bank Indicators (electric)
Eclipse-Pioneer 3907-1M-A1"

To: "2 Turn and Bank Indicators (electric)
Pioneer Central 3919-1AE-B1-2"

Effect on Weight Empty: -1.0 lb.
Effect on Balance: Negligible
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,223 Dtd 7 April 1958
CHANGE NO: 177 MODEL: (880) 22-1

TITLE: Panel, Aft Stewardess Public Address Sytem, Revision to

ORIGIN: TWA requested by Letter No. 880-541 dated 5 March 1958, and
TWA TWX dated 1 April 1958.

REASON FOR CHANGE: Customer requested.

Rejected

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

Negligible

Negligible

Negligible

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONV: SD

Hughes Tool Company
Change No. 177

Title: Panel, Aft Stewardess Public Address System, Revision to

Origin: TWA requested by Letter No. 880-541 dated 5 March 1958, and
TWA TWX dated 1 April 1958

Reason for Change: Customer requested.

Description of Change:

This change has no effect on the Specification language.

Effect on Weight Empty: Negligible
Effect on Balance: Negligible
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 2

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,199 Dtd 21 February 195

CHANGE NO: 176

MODEL: (880) 22-1

TITLE: High Intensity, Oscillating Position Lights, Installation of

ORIGIN: Delta requested and Convair proposed for TWA

REASON FOR CHANGE: To replace the present fixed position lights with oscillating lights; and to eliminate the anti-collision lights.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+35.0 lb

+35.0 lb

+47,174

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS: In event CAA disapproves installation, another proposal will be required to reinstate present light arrangement.

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: High Intensity, Oscillating Position Lights, Installation of

Origin: Delta requested and Convair proposed for TWA

Reason for Change: To replace the present fixed position lights with oscillating lights, and to eliminate the anti-collision lights.

Description of Change:

Page 59, Paragraph 3.14.3.4.1 FLUX VALVE:

Revise the first sentence to read as follows:

"Two flux valve units shall be installed just inboard of the right wing tip in the trailing edge area, with two access doors on upper wing surface."

Page 73, Paragraph 3.16.8.1.1 POSITION LIGHTS:

Revise the paragraph to read as follows:

"Three high intensity, oscillating position lights shall be installed; one red light on the forward left wing tip, one green light on the forward right wing tip and one white light on the aft end of the fuselage. These lights shall be designed to oscillate between an arc of approximately 126 degrees in plan view and to embrace an arc of approximately 80 degrees in the vertical plane."

Page 74, Paragraph 3.16.8.1.4 ANTI-COLLISION LIGHTS:

Add the following after paragraph title "(Not applicable)", and delete the paragraph.

Page 74, Paragraph 3.16.8.1.4.1 CONTROL:

Delete the paragraph, including paragraph number and title.

Page 84, Paragraph 3.16.17 ESSENTIAL POWER:

Under "Lighting", delete the fifth item "(Anti-Collision Lights)", and renumber the remaining items 1 through 12.

Page A-3, APPENDIX I-C, ELECTRICAL EQUIPMENT:

Under "EXTERNAL LIGHTS", change the first two items as follows:

From: "1 Wing Tip Lamp Assembly (left hand) Grimes,
40075-21-4174"

To: "1 Position Light Assembly, Wing, Oscillating, Red
(left hand)"

From: "1 Wing Tip Lamp Assembly (right hand) Grimes,
40075-22-4174"

To: "1 Position Light Assembly, Wing, Oscillating, Green
(right hand)"

Delete the third, fourth and fifth items "(2 Position Lamps, 1
Tail Light, Red, and 1 Tail Light, White)"

Delete the eighth and ninth items "(1 Rotating Anti-Collision
Light Assemblies (upper) Grimes, G9775-21-7079 and 1 Ro-
tating Anti-Collision Light Assemblies (lower) Grimes,
40045-21-7079)".

Change the 12th item as follows:

From: "1 Tail Position Light, Grimes B7890-1-311"

To: "1 Position Light Assembly, Aft, Oscillating, White"

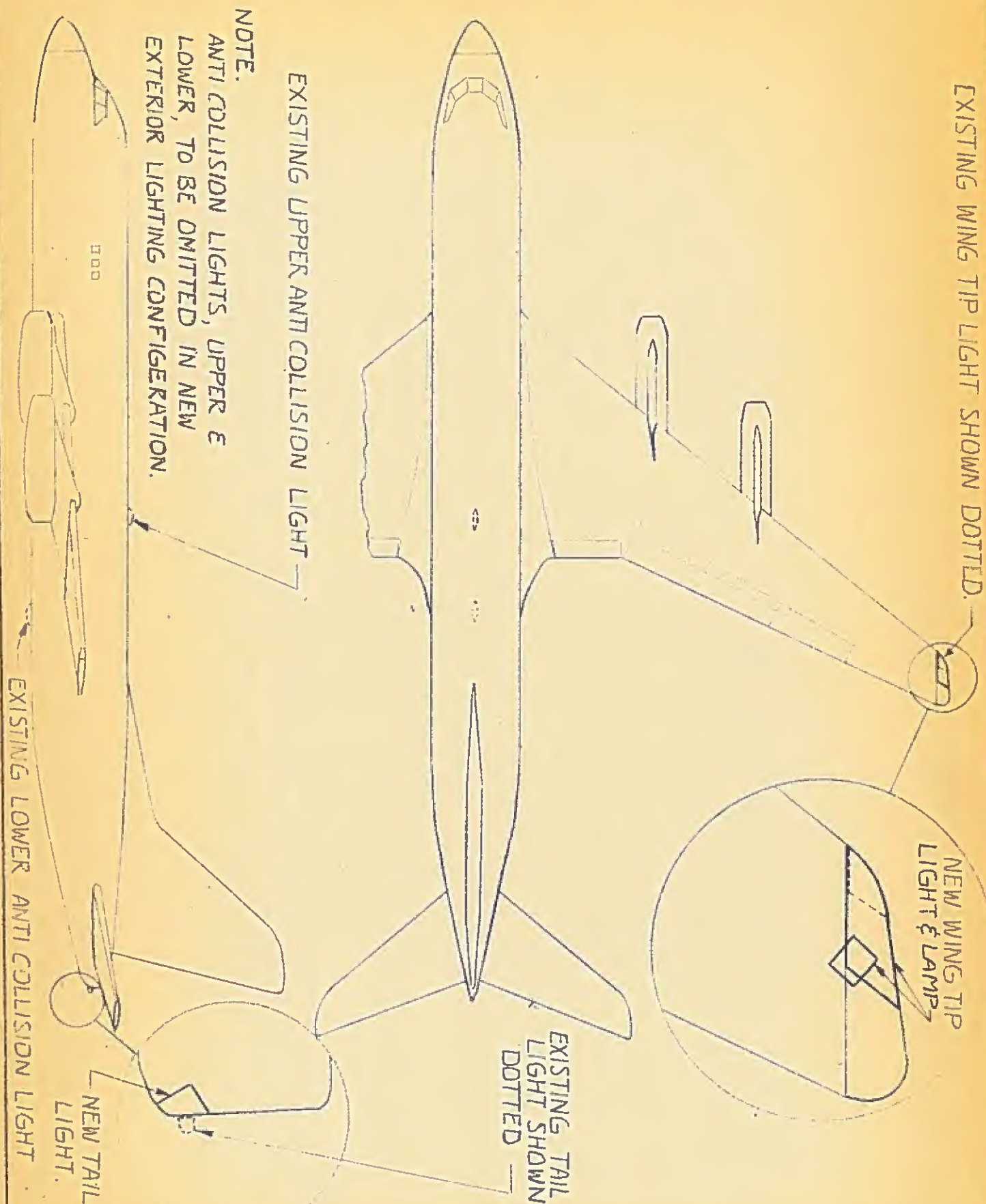
Enclosure: (A) One (1) copy of sketch on proposed position light
locations (for information only).

Effect on Weight Empty: +35.0 pounds
Effect on Balance: +47,174 inch-pounds
Effect on Performance: None

ANALYSIS
PREPARED BY
CHECKED BY
REVISED BY

C O N V A I R
A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO

PAGE
REPORT NO.
MODEL
DATE 2-28-58



CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,222 Dtd _____
CHANGE NO: 175 MODEL: (880) 22-1

TITLE: Passenger Cabin Oxygen Cylinders, Relocation of

ORIGIN: TWA requested by Letter No. 880-512 dated 24 February 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	Negligible Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:
Requires acceptance by
TWA and Delta.

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIN: SD

Hughes Tool Company
Change No. 175

Title: Passenger Cabin Oxygen Cylinders, Relocation of

Origin: TWA requested by Letter No. 880-512 dated 24 February 1958

Reason for Change: Customer requested.

Description of Change:

Page 110, Paragraph 3.19.5.6 PORTABLE BOTTLES:

Add the following sentence to the paragraph:

"The bottles shall be located as follows: One in the forward left hand hatrack stowage bin, one in the left hand mid-cabin stowage bin and one in the aft left hand stowage bin."

Effect on Weight Empty: 0
Effect on Balance: Negligible
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,204 dtd 14 March 1958
CHANGE NO: 174 MODEL: (880) 22-1

TITLE: Portable Oxygen Cylinder Assemblies, Revision to

ORIGIN: IWA requested by Letter No. 880-512, dated 24 February 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	-20.0 lb	-16,302 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 174

Title: Portable Oxygen Cylinder Assemblies, Revision to

Origin: TWA requested by Letter No. 880-512, dated 24 February 1958

Reason for Change: Customer requested.

Description of Change:

Page 118, Paragraph 3.19.5.6 PORTABLE BOTTLES:

Revise the paragraph to read as follows:

"One portable 310-liter capacity, high pressure protective oxygen unit, including cylinder, full face mask and one pair of asbestos gloves, shall be installed in the flight station. Three 310-liter portable oxygen bottles, with demand regulators and mask, and each bottle provided with one Puritan continuous flow mask assembly, shall be provided in the passenger compartment."

Page A-18, APPENDIX I-C, OXYGEN EQUIPMENT:

Change the following items in the Description List as follows:

From: "3 Portable O₂ (310 Liter)

To: "3 Portable O₂ Cylinder Assemblies (310-Liter) Scott 5600-B3B"

From: "1 Portable O₂ (625 Liter)

To: "1 Portable O₂ Cylinder Assembly (310-Liter) Scott 5600-B3"

	Weight (lb)	Moment (inch-lb)
Effect on Weight Empty:	0.0	0.0
Effect on Fixed Useful Load:	-20.0	-16,302
Effect on Operating Weight Empty:	-20.0	-16,302
Effect on Performance:	None	

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,196 -Dtd 17 February 1958

CHANGE NO: 173

MODEL: (880) 22- 1

TITLE: Lavatory Towel Dispenser, Addition of

ORIGIN: TWA requested by Letter No. 880-503, dated 11 February 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

Negligible

Negligible

Negligible

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

Requires acceptance by both
TWA and Delta.

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 173

Title: Lavatory Towel Dispenser, Addition of

Origin: TWA requested by Letter No. 880-503, dated 11 February 1958

Reason for Change: Customer requested.

Description of Change:

Page 109, Paragraph 3.19.2.2.3 MISCELLANEOUS LAVATORY EQUIPMENT:

Change the seventh item in the equipment list as follows:

From: "Two towel dispensers (one for linen and one for paper)"

To: "One towel dispenser unit (consisting of three dispensers; two universal for either linen or paper, and one for paper only)"

Page A-14, APPENDIX I-C, FURNISHINGS:

Change the 14th item in the Description List as follows:

From: "3 Linen Towel Dispenser"

To: "3 Towel Dispenser Units (each consisting of three dispensers; two universal for either linen or paper, and one for paper only)"

Effect on Weight Empty: Negligible
Effect on Balance: Negligible
Effect on Performance: None

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO, CALIFORNIA

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD- 22-003

DATE: _____

CUSTOMER: Delta Air Lines Inc.

MCL 10,284 DTD _____

CHANGE NO. 172

MODEL: (880) 22-2

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated (Based on Delta Letter File 142, dated 23 July 1958)**

REASON FOR CHANGE: **To waive Convair functional checkout of the Selcal and DMET electronic equipment.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
GUAR. WT. EMPTY 0	OPER. WT. EMPTY 0	0 INCH LB.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* NEGLIGIBLE CHANGES WILL BE ACCUMULATED AND TOTALS REFLECTED IN A FUTURE CHANGE PROPOSAL ACCEPTANCE OF THIS CHANGE IS DEPENDENT UPON PRIOR ACCEPTANCE OF THE FOLLOWING CHANGES:	ENGINEERING APPROVAL
---	----------------------

LATEST DATE OF ACCEPTANCE:	AIRPLANES AFFECTED:
----------------------------	---------------------

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE: RECURRING: _____ NON-RECURRING: _____ TOTAL: _____
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ACCEPTED: _____
BY: _____
DATE: _____

CONVAIR, A DIVISION OF GENERAL DYNAMICS CORP.

CONVAIR: SD

Delta Air Lines Inc.
Change No. 172

Title: Specification Administrative Change

Origin: Convair initiated (Based on Delta Letter File 142, dated 23
July 1958)

Reason for Change: To waive Convair functional checkout of the Selcal
and DMET electronic equipment.

Description of Change:

Page 90, Paragraph 3.17.1 EQUIPMENT:

Add an asterisk before the first two items listed under "Complete
provisions for the following systems shall be made:"

*Dual Distance Measuring System

*Dual Channel Airborne Selective Calling System

Add the following note to the bottom of Page 90:

"*The last sentence of paragraph 6.1.1.1 shall not apply for these
items."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6-1A-17 (3/24/58)

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

NCL 10,207 Dtd 19 March 1958

CHANGE NO: 171B

MODEL: (880) 22-1

TITLE: **Stabilizer Trim Control, Electric Drive Capability, Incorporation of**

ORIGIN: **TWA requested by Letter No. 880-561 dated 21 March 1958**

REASON FOR CHANGE: **Customer requested, and revision to CCP No. 171A.**

Cancelled & replaced by CCP 204

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty
+20.0 lbs

Oper. Wt. Empty
+20.0 lbs

+4,650 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 171B

Title: Stabilizer Trim Control, Electric Drive Capability, Incorporation of

Origin: TWA requested by Letter No. 880-561 dated 21 March 1958.

Reason for Change: Customer requested, and revision to CCP No. 171.

Description of Change:

Page 40, Add the following new paragraph to the page, after paragraph 3.10.1.5:

"3.10.1.5.1 STABILIZER TRIM CONTROL: An electrically operated motor and clutch assembly shall be incorporated in the stabilizer trim system to provide control of stabilizer trim by means of switches installed on a knob on the upper part of the outboard horn of the pilot's and co-pilot's control wheels. Switches shall be installed at an angle inclined forward of the vertical. The switches shall be of the slide contact type and shall operate up and forward for nose down trim and down and aft for nose up trim. An override switch shall be provided on the pedestal, adjacent to the stabilizer hydraulic cutoff, capable of disconnecting all power to the electric stabilizer trim system. This switch shall be guarded in the "on" position.

Page 83, Paragraph 3.16.17 ESSENTIAL POWER (AC POWER)

Add the following items under "Flight Controls"

- "3. Stabilizer Trim - Emergency Motor
4. Stabilizer Trim - Wheel Control Motor"

Enclosure: (A) One (1) copy of Diagram - STABILIZER TRIM CONTROL, ADDITION OF ELECTRICAL DRIVE CAPABILITY (for information only)

Effect on Weight Empty: 20.0 pounds
Effect on Balance: 4,650 inch-pounds
Effect on Performance: None

The following not to be a part of the Specification language:

This change cancels and supercedes TWA CCP No. 171A in its entirety.

Date
Prepared By
Checked By
Revised Date

CONVAIR
Aircraft Division
SAN DIEGO, CALIFORNIA
Model: CONVAIR 440

Page

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Temp

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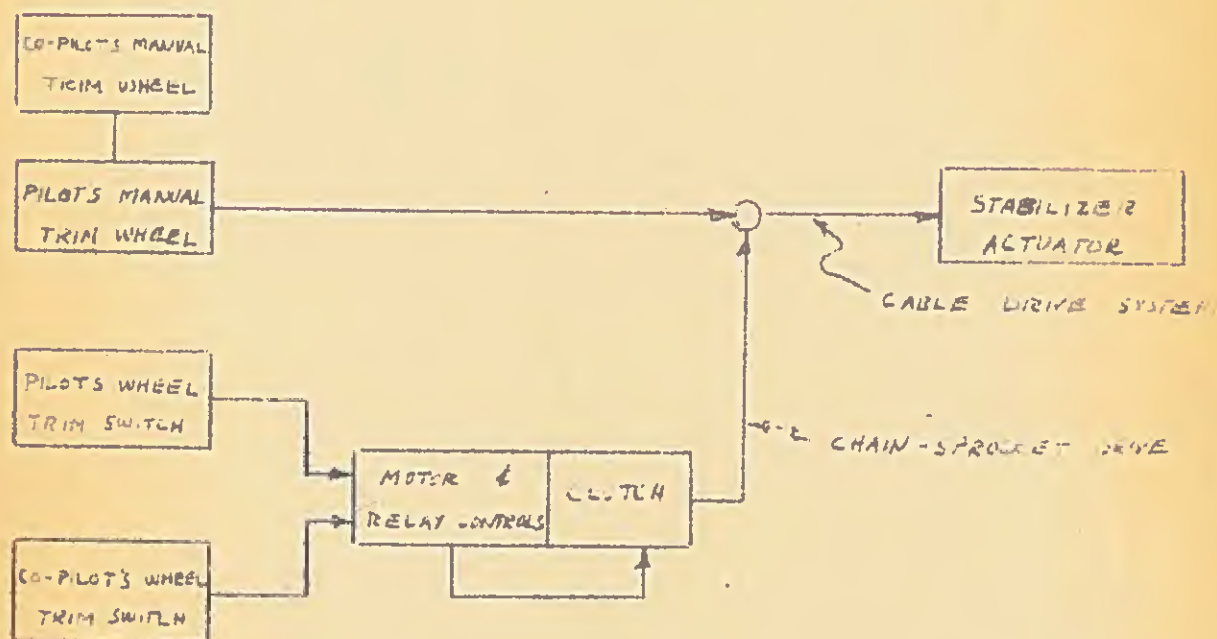
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Report No. MCL-22-19207

STABILIZER TRIM CONTROL, ADDITION OF ELECTRICAL DRIVE CAPABILITY

BLOCK DIAGRAM



CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 2

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,206 Dtd 17 March 1958

CHANGE NO: 170

MODEL: (880) 22- 1

TITLE: Cabin Interior Modification and Installation of a 12-Place Club Area

ORIGIN: References: Letter of Agreement No. 17, Preliminary Mock-up of 25 February 1957, TWA Letter No. 880-99 dated 12 March 1957 and Interior Mock-up of 25 June 1957.

REASON FOR CHANGE:

To furnish Customer with desired cabin interior and to provide a 12-place club area.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+324.8 lb

+324.8 lb

+210,780 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: Cabin Interior Modification and Installation of a 12-Place Club Area

Origin: References: Letter of Agreement No. 17, Preliminary Mock-up of 25 February 1957, TWA Letter No. 880-99 dated 12 March 1957 and Interior Mock-up of 25 June 1957

Reason for Change: To furnish Customer with desired cabin interior and to provide a 12-place club area.

Description of Change:

Page 1 - INTRODUCTION:

In eighth line of first paragraph, change "80 to 108" to "84 to 109".

Page 3, Paragraph 1.1 - BASIC TYPE:

In fifth line of first paragraph, change "80" to "84".

Page 14, Paragraph 3.1.2.2 - LOADING SUMMARY:

Under "Payload 1", change "(80 passengers plus 4 lounge)" to "(84 passengers including 12-place club area)"

Under "Payload 2" change "(108 passengers)" to "(109 passengers)"

Page 78, Paragraph 3.16 - ELECTRICAL SYSTEM:

Add the following new paragraph after paragraph 3.16.8.6:

"3.16.8.7 SIDE WINDOW LIGHTING: Valance type fluorescent lighting, including a dimming feature, shall be installed at the cabin side windows. A switch shall be included to separate this lighting from the overhead cove lights."

Page 81, Paragraph 3.16.11.4 - CALL SYSTEM:

Revise third sentence to read as follows:

"Call lights to indicate calls as follows: One from the club area (or forward passenger area), one from the after passenger area, one from each lavatory, and one from the flight deck shall be installed and shall be visible from the passenger compartment and the cabin attendants' stations."

Page 81, Paragraph 3.16.11.4.1 - PASSENGER CALL SWITCHES:

Revise the first sentence to read as follows:

"Call switches shall be installed: two for each row of seats, within reach of passengers, one in each lavatory and six in the club area."

Page 105, Paragraph 3.19.1.1.4 - LOUNGE SEATS:

Delete the paragraph title and the first sentence and substitute the following:

"CLUB AREA SEATS: A 12-place club area shall be provided aft of the forward main entrance door, with seat assemblies arranged as follows:

- (a) Left hand double seat facing aft
- (b) Right hand double seat facing aft
- (c) Right hand double seat facing forward
- (d) Left hand quadruple seat assembly
- (e) Right hand double seat facing inboard"

Page 106, Paragraph 3.19.1.1.5 - PASSENGER SEATS:

Change the words "lounge type" appearing in the second line, and "lounge" appearing in the eighth line to "club-area".

Page 109, Paragraph 3.19.2.2.3 - MISCELLANEOUS LAVATORY EQUIPMENT:

Change the first item in equipment list to read as follows:

"Three shatterproof mirrors (one mirror in forward lavatory and one each in aft lavatories)"

Page 111, Paragraph 3.19.2.6.8 - MAGAZINE RACKS:

Change the paragraph to read as follows:

"Four magazine racks of the self cleaning type shall be installed; one in aft part of the forward entrance area, two in aft part of the aft entrance area and one in the club area."

Page 113, Paragraph 3.19.3.1.1 - PASSENGER COMPARTMENT:

Revise the first sentence to read as follows:

"The passenger compartments provide seating accommodations for 84 passengers, including 12 club area passengers."

Add the following to the end of last sentence:

"..... except in the areas of lowered ceiling."

Page 113, Paragraph 3.19.3.3 - TRIM:

Add the following new sentence to the end of paragraph:

"Carpeting shall be provided on side walls of cabin interior extending approximately 10 inches up the walls."

Page 114, Paragraph 3.19.3.5 - CURTAINS:

Change the first sentence to read as follows:

"All passenger compartment windows shall be provided with glare control."

Delete the last sentence which reads as follows:

"Window curtains, wherever practicable, shall be interchangeable."

Page 114, Paragraph 3.19.3.6 - HAT RACKS:

Revise the paragraph to read as follows:

"Overhead hat racks shall be installed extending the full length of the passenger compartment except in the area of the stowage bins. They shall be sufficiently rigid to support passengers walking in the aisle in rough weather. The racks shall be designed for a stowage load of one pound per lineal inch and an additional load of 170 pounds applied at every third row of seats. Stowage bins to break the continuity of the hat racks shall be installed in four locations on each side of the aisle. A door or doors shall be provided for each bin."

Page 129, Paragraph 3.23.2 EQUIPMENT INTERCHANGEABILITY:

Add under Item 2 Interchangeability Without Alteration:

Double asterisk before **Passenger Seat Assembly L.H. Passenger
Seat Assy R.H.

Add the following note to the bottom of the page:

**NOTE: Passenger seats immediately aft of the escape hatches shall have special outboard arm rests, however, they will be interchangeable in all other respects.

Page A3, APPENDIX I-C, ELECTRICAL SYSTEM:

Under "Interior Lights", change the 12th item as follows:

From: "2 Fasten Seat Belts - No Smoking Sign"

To: "4 Fasten Seat Belts - No Smoking Sign"

Page A-14, APPENDIX I-C, FURNISHINGS:

Revise the Description List as follows:

Change the fourth item:

From: "40 Passenger Seats (Double)"

To: "36 Passenger Seats (Double)"

Change the fifth item:

From: "2 Lounge Seats (Double)"

To: "4 Club Area Seats (Double)"

Add the following item:

"1 Club Area Seat (Quadruple)"

Delete sixth item "Window Curtains

7.5 oz)"

Change the 19th item:

From: "3 Wash Basin Mirror"

To: "3 Lavatory Mirrors (Shatterproof)"

Page A-15, APPENDIX I-C, - FURNISHINGS:

Change the fourth item:

From: "Lavatory, Lounge, Buffet and Entryway Overhead Trim"

To: "Lavatory, Club Area, Buffet Area and Entryway
Overhead Trim"

Change the ninth item:

From: "Seat Upholstering (Including lounge)"

To: "Seat Upholstering (Including club area)"

Delete the 15th item "(4 Double Passenger Seats Including
Fabric and Belt)

*120.0 lb"

Change the 16th item:

From: "2 Double Lounge Seats (Including Fabric and Belt)"

To: "4 Double Club Area Seats (Including Fabric and Belt)

*240.0 lb"

Add the following item:

"1 Club Area Seat (Quadruple)

*120.0 lb"

Change the 21st item:

From: "80 Passenger Trays (Stowed in seat pocket)" 160.0 lb"
To: "84 Passenger Trays (72 stowed in seat pocket
and 12 stowed in club area)" 168.0 lb"

Change the 22nd item:

From: "80 Double Passenger Seats (Including fabric and belt) 2000.0 lb"
To: "36 Double Passenger Seats (Including fabric and belt) 1800.0 lb"

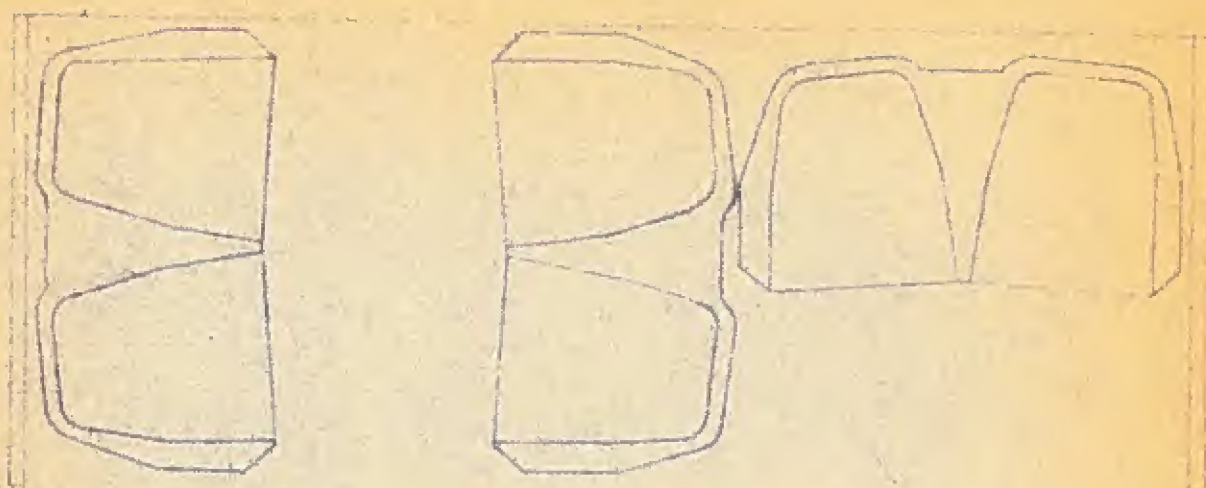
Figure 1-2	INBOARD PROFILE AND PLAN VIEW
Figure 1-3	ALTERNATE SEATING ARRANGEMENT
Figure 3.7-1	EMERGENCY EXIT FLOW
Figure 3.19-2	AFT WATER SYSTEM SCHEMATIC
Figure 3.19-3	LAVATORY TOILET WATER SCHEMATIC
Figure 3.19-4	HIGH PRESSURE OXYGEN GAS SYSTEM SCHEMATIC

Revise above figures as required to reflect this change.

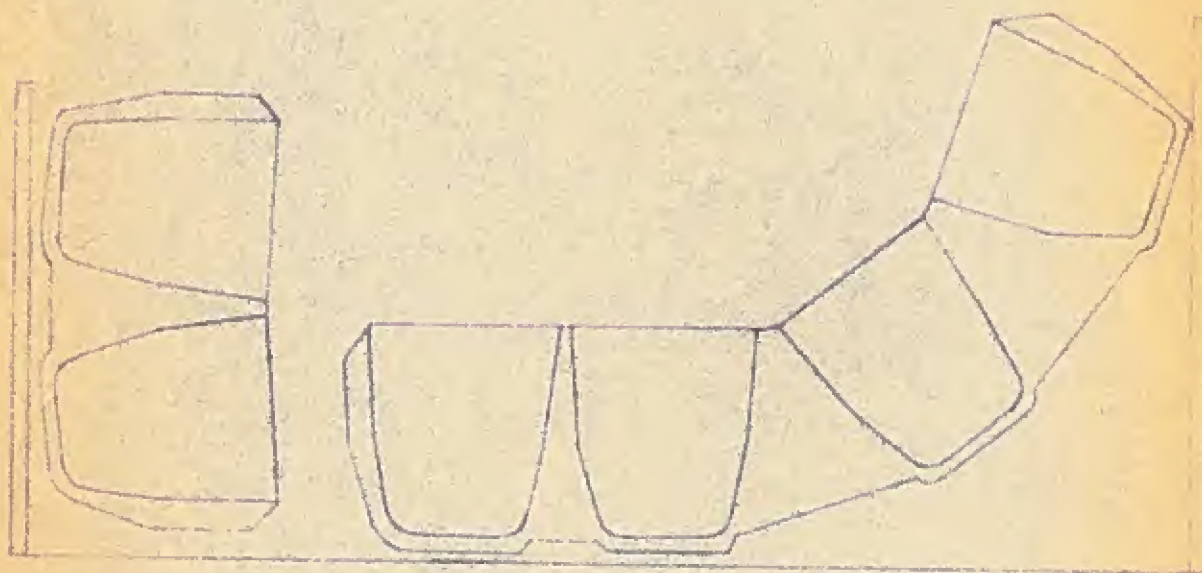
Enclosure: (A) One (1) copy of sketch of proposed Club Area Arrangement

*NOTE: CCP No. 160A fabric weight effects have not been included in this proposal.

Effect on Weight Empty: +324.8 lb
Effect on Balance: +210,780 Inch-Lb
Effect on Performance: None



← FWD



12-PLACE CLUB AREA

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,198 Dtd 24 February 1958
CHANGE NO: 168 MODEL: (880) 22-1

TITLE: Nacelle Fire Extinguisher Equipment, Walter Kidde, Installation of

ORIGIN: Requested by TWA Letters 880-505 dated 11 February 1958 and 880S-98 dated 20 February 1958.

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
+7.0 lb	+7.0 lb	+5,618 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 168

Title: Nacelle Fire Extinguisher Equipment, Walter Kidde, Installation of

Origin: Requested by TWA Letters 880-505 dated 11 February 1958 and 880S-98 dated 20 February 1958.

Reason for Change: Customer requested.

Description of Change:

This change has no effect on Specification language.

Effect on Weight Empty:	+7.0 pounds
Effect on Balance:	+5,618 inch-pounds
Effect on Performance:	None

The following is not to appear in Specification language:

This change proposes installation of a "Walter Kidde" fire extinguishing system utilizing a cartridge type method of puncturing a frangible disc (single squib) to release the fire extinguishing agent, in lieu of an "Accessory Products Company" fire extinguishing system using a solenoid actuated valve to release the fire extinguishing agent.

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,202 Dtd 6 March 1958
CHANGE NO: 166 MODEL: (880) 22-1

TITLE: Wheel Well Fire Detectors, Deletion of		
ORIGIN: Convair initiated for weight saving.		
REASON FOR CHANGE: Incorporation of "Skydrol" hydraulic fluid eliminates the necessity of wheel well fire detection.		
<div style="display: flex; justify-content: space-between;"><div>EFFECT ON WEIGHT *</div><div>EFFECT ON BALANCE *</div></div>		
Guar. Wt. Empty -3.0 lbs	Oper. Wt. Empty -3.0 lbs	 -2,180 Inch Lb.
EFFECT ON GUARANTEED PERFORMANCE: * <div style="text-align: right; padding-right: 50px;">None</div>		
* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes: <div style="text-align: right; padding-right: 50px;">Engineering Approval</div>		
LATEST DATE OF ACCEPTANCE:		AIRPLANES AFFECTED:
SPECIAL PROVISIONS:		EFFECT ON PRICE PER AIRPLANE: Recurring: _____ Non-Recurring _____ Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 166

Title: Wheel Well Fire Detectors, Deletion of

Origin: Convair initiated for weight saving.

Reason for Change: Incorporation of "Skydrol" hydraulic fluid eliminates the necessity of wheel well fire detection.

Description of Change:

Page 80, Paragraph 3.16.11.2 FIRE WARNING BELL:

In the first sentence, delete the words "or wheel wells".

Page 116, Paragraph 3.19.4.2.1 GENERAL:

Delete the last sentence in paragraph "(In addition unit type fire detectors shall be installed in the landing gear wheel wells.)"

Page 116, Paragraph 3.19.4.2.2 INDICATORS:

Delete the last sentence in paragraph "(A steady light shall indicate a fire in the landing gear wheel wells.)"

Effect on Weight Empty: -3.0 pounds
Effect on Balance: -2,180 inch-pounds
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,193 Dtd 11 February 1958
CHANGE NO: 165 MODEL: (880) 22-1

TITLE: Approach Speed Indicator, Installation of

ORIGIN: TWA requested during meeting between TWA and Convair representative at Kansas City on 3,4 and 5 February 1958.

REASON FOR CHANGE: Customer requested.

Rejected

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+17.0 lb

+17.0 lb

+8,994

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: * None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 165

Title: Approach Speed Indicator, Installation of

Origin: TWA requested during meeting between TWA and Convair representative at Kansas City on 3, 4 and 5 February 1958.

Reason for Change: Customer requested

Description of Change:

Page 60, Paragraph 3.14 - INSTRUMENTS AND NAVIGATION EQUIPMENT:

Add the following new paragraph to the page:

"3.14.3.5.1 APPROACH SPEED INDICATING SYSTEM: An approach speed indicating system shall be installed. The system shall consist of a lift transducer assembly in the wing leading edge, a flap position potentiometer in the flap gear box, a lift computer in the electrical rack, and two speed control indicators; one on the pilot's glare shield and one on the copilot's glare shield."

Effect on Weight Empty: +17.0 lb
Effect on Balance: +8,99¹/₄ Inch-lb
Effect on Performance: None

The following is not to appear in the Specification language:

The Approach Speed Indicating System shall be fabricated by SAFE FLIGHT INSTRUMENT CORPORATION.

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,197 Dtd _____
CHANGE NO: 164 MODEL: (880) 22-1

TITLE: External Power Provisions, Revision to

ORIGIN: TWA requested by Letter No. 880-502 dated 10 February 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
+16.0 lb	+16.0 lb	+5,733 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: _____ AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	Recurring: _____
	Non-Recurring: _____
	Total: _____

ACCEPTED: _____ CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
DATE: _____ Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 164

Page 1 of 2

Title: External Power Provisions, Revision to

Origin: TWA requested by Letter No. 880-502 dated 10 February 1958

Reason for Change: Customer requested.

Description of Change:

Page 57, Paragraph 3.14.1.4 FLIGHT ENGINEER'S INSTRUMENTS:

Add the following new item to the instrument list:

"Four external power indicator lights (two white, two blue)."

Page 66, Paragraph 3.16.2.4.1 POWER TRANSFER:

Revise the paragraph to read as follows:

"A switch shall be located in the pilots' compartment to transfer the aircraft electrical loads to the ground power source. Design shall be such as to minimize interruption of power. Four indicator lights shall be installed on the flight engineer's panel adjacent to the external power control switch. Two of the lights shall be white nondimming and be labeled "External Power Connected". Two of the lights shall be blue nondimming and labeled "External Power on Bus". The number of wires energized when the power transfer switch is "off" shall be held to a minimum."

Page 79, Paragraph 3.16.10.4 EXTERNAL POWER:

Revise the paragraph to read as follows:

"Two receptacles for ground power alternating current shall be provided in an area forward of the wing and clear of all fluid drains or protuberances. The receptacles shall be protected against contamination by foreign substances. When connected to an external power source, the receptacles shall be capable of supplying ground maintenance and operational loads. The system shall be interlocked so that when either power cable is disconnected from the aircraft, power is automatically removed from the disconnected cable. When a single ground power plug is being used to energize the aircraft system, the pins of the unused receptacle shall not be energized. The external receptacles shall be designated "main" and "auxiliary". It shall be possible to connect one power cable only into the "main" power receptacle and energize certain equipment in the airplane. Two indicator lights shall be installed at the external power connections to indicate when external power is supplied to each receptacle."

CONVAIR: SD

Hughes Tool Company
Change No. 164

Page 2 of 2

Figure 3.14-3 FLIGHT ENGINEER'S PANEL

Revise figure as required to reflect this change.

Effect on Weight Empty:	+16.0 pounds
Effect on Balance:	+5,733 inch-pounds
Effect on Performance:	None

A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: 2D-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

NEL 10,189 Ptd _____

CHANGE NO: 163

MODEL: (880) 22-1

TITLE: Shoulder Harness Retractors, Stewardess Seats; Installation of

ORIGIN: TWA requested by Letter No. 880-430, dated 12 December 1957.

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+2.0 lbs

+2.0 lbs

+1,914 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:

Chief of Contract Administration
Commercial

CONVAIL: SD

Hughes Tool Company
Change No. 163

Title: Shoulder Harness Retractors, Stewardess Seats; Installation of

Origin: TWA requested by Letter No. 880-430, dated 12 December 1957.

Reason for Change: Customer requested.

Description of Change:

Page 106, Paragraph 3.19.1.1.6 SAFETY BELTS:

Add the following sentence to the end of paragraph:

"Each of the three cabin attendant seats shall be provided with a shoulder harness-safety belt retracting device to withdraw the harness and belt halves to a flat position against the seat backs."

Effect on Weight Empty: +2.0 pounds
Effect on Balance: +1,914 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL - Dtd -

CHANGE NO: 162

MODEL: (880) 22- 1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated.**

REASON FOR CHANGE: **To clarify the intent of the Specification.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 162

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 14, Paragraph 3.1.2.2 LOADING SUMMARY:

Under "Payload", item 1, change as follows:

From: "Payload (space limit) *Standard Configuration = 22,360 lb"

To: "Payload (space limit) *Standard Configuration = 22,490 lb"

Change item 2 as follows:

From: "Payload (space limit) *Coach Configuration = 26,320 lb"

To: "Payload (space limit) *Coach Configuration = 26,450 lb"

Change item 3 as follows:

From: "Total cargo capacity 2 lower compartments = 850 cu ft"

To: "Total cargo capacity 2 lower compartments = 863 cu ft"

Page 15, Paragraph 3.1.3.3. BODY:

Change "Cargo Compartment Capacities" as follows:

From: "Forward 378 cu ft
Aft 472 cu ft"

To: "Forward 448 cu ft
Aft 415 cu ft"

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

CONFIDENTIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL Dtd
CHANGE NO: 161 MODEL: (880) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated.**

REASON FOR CHANGE: **To clarify the intent of the Specification.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Quar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	Recurring: _____
	Non-Recurring: _____
	Total: _____

ACCEPTED: CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 161

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 89, Paragraph 3.17.1 EQUIPMENT:

Under "Provisions for the following systems shall be made,"

Change the first item as follows:

From: "Dual Distance Measuring Equipment"

To: "Dual Distance Measuring Equipment Tacan"

Page 102, Paragraph 3.17.3.5:

Change the paragraph title as follows:

From: "DISTANCE MEASURING EQUIPMENT (Provisions)"

To: "DISTANCE MEASURING EQUIPMENT TACAN (Provisions)"

Figure 3.14-1 PILOT'S AND COPILOT'S INSTRUMENT PANEL:

Revise figure to show DMET provisions in lieu of DME.

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6 1211 (3/14/55)

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,194 Dtd 12 February 1958
CHANGE NO: 160B MODEL: (880) 22-1

TITLE: Interior Fabric Weights, Revision to

ORIGIN: TWA Requested, Reference: Minutes of Meeting between TWA and Convair Representatives at Kansas City on 17 December 1957, and TWA Color Module Review of 8 and 9 May 1958.

REASON FOR CHANGE:
To adjust weights of fabric selected by Customer for interior trim; and revision to CCP No. 160A.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+185.0 lbs

+185.0 lbs

+155,655 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

TWA CCP No. 142 - "CUSTOMER FURNISHED PASSENGER SEATS"

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 160B

Title: Interior Fabric Weights, Revision to

Origin: TWA Request, Reference: Minutes of Meeting between TWA and
Convair Representative at Kansas City
on 17 December 1957, and TWA Color
Module Review of 8 and 9 May 1958.

Reason for Change: To adjust weights of fabrics selected by Customer
for interior trim, and revision to CCP No. 160A.

Description of Change:

Page A-15, APPENDIX I-C, FURNISHINGS:

Revise the below listed items under "Interior Trim" as follows:

Cabin Floor Covering	55.0 oz
Cabin Floor Covering Up Sidewall	55.0 oz
Buffet, Lavatory and Entrance Floor Covering	*67.0 oz
Cabin Wainscot Trim	20.0 oz
**Seat Upholstering (6 doubles) Club Area	16.0 oz
**Partitions (Polyplastex)	24.0 oz

Effect on Weight Empty: +185.0 pounds
Effect on Balance: +155,655 inch-pounds
Effect on Performance: None

The following is not to appear in the Specification language:

The weight effects of this change will be reflected in paragraphs 3.1.2.1 and 3.1.2.2 of the Specification in a future CCP Summary on Customer acceptance of this change.

*The 67.0 oz floor covering includes weight allowance (but no weight increase) for acoustical foam pad as is included in the Specification 32.5 oz allowance.

**To be incorporated in the Specification subsequent to TWA CCP No. 170
"CABIN INTERIOR MODIFICATION and 12-PLACE CLUB AREA."

1. DIVISION
Division of General Dynamics Corporation,
San Diego, California

COMMERCIAL CHANGE PROPOSAL
CONVAIR S.D. 6 1A11 (2/14/58)

SHEET NO: SD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

REL 10,194 Dtd 12 February 1958

CHANGE NO: 160A

MODEL: (880) 22-1

TITLE: Interior Fabric Weights, Revision to

ORIGIN: TWA Requested, Reference: Minutes of Meeting between TWA and
Convair Representatives at Kansas City on 17 December 1957, and
TWA Color Module Review of 8 and 9 May 1958.

REASON FOR CHANGE: To adjust weights of fabric selected by Customer
for interior trim; and revision to CCP No. 160.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+195.0 lbs

+195.0 lbs

+163,650 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL INSTRUCTIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-recurring: _____

Total: _____

APPROVAL:

CONVAIR, A Div. of Gen. Dyn. Corp.

DATE: _____

DATE: _____

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL _____ Dtd _____
CHANGE NO: 159 MODEL: (880) 22-1

TITLE: Stewardess Seats and Handsets, Relocation of

ORIGIN: TWA requested by Letter No. 880-247 dated 29 July 1957, and
TWA Letter No. 880-481 dated 16 January 1958

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
+5.0 lbs	+5.0 lbs	+7,148 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: _____ AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIN: SD

Hughes Tool Company
Change No. 159

Page 1 of 2

Title: Stewardess Seats and Handsets, Relocation of

Origin: TWA requested by Letter No. 880-247 dated 29 July 1957, and
TWA Letter No. 880-471 dated 16 January 1958.

Reason for Change: Customer requested.

Description of Change:

Page 99, Paragraph 3.17.2.3.5 SERVICE INTERPHONE:

Under first sentence from top of page, change third and fourth items as follows:

From: "3. Forward Buffet"

To: "3. Forward Stewardess Seat"

From: "4. Aft Buffet"

To: "4. Aft Stewardess Seat"

In second paragraph from top of page, revise sixth sentence starting in ninth line to read as follows:

"A DPST switch shall be installed on the flight engineer's panel to isolate the flight engineer's nose wheel well, and the forward and aft stewardess stations from the remainder of the service interphone system in a manner which leaves the flight engineer's and nose wheel well, and the forward and aft stewardess stations operative."

Page 108A, Paragraph 3.19.2.1.3 CONTROL PANEL:

Revise the paragraph to read as follows:

"A cabin attendant's control panel shall be provided over each service door on right hand side of cabin, (one forward and one aft). These panels shall contain controls for the following:

Entrance, passenger and buffet lighting.
Passenger and crew call system.

A separate control panel for the service interphone and public address systems, and a handset shall be provided, one each at forward and aft stewardess stations."

Page 105, Paragraph 3.19.1.1.3 CABIN ATTENDANT SEATS:

Revise the first sentence to read as follows:

"Three retractable, upholstered seats and back-rests shall be provided for cabin attendants; one single aft facing seat on aft face of forward left hand coat compartment, one aft facing seat on left hand cabin aft bulkhead and one forward facing seat on inboard face of aft left hand coat compartment."

Figure 1-2 INBOARD PROFILE AND PLAN VIEW

Figure 1-3 APPENDIX II, ALTERNATE SEATING ARRANGEMENT

Revise above figures to show relocation of stewardess seats as applicable.

- Enclosure:
- (A) One copy of Convair Drawing No. SK-10757-1 - STEWARDESS SEAT LOCATION (for information only)
 - (B) One copy of Convair Drawing No. SK-10757-2 - STEWARDESS SEAT & P.S. PANEL, AFT ENTRANCE AREA (for information only)
 - (C) One copy of Convair Drawing No. SK-10757-3 - STEWARDESS SEAT & P.A. PANEL, FWD. ENTRANCE AREA (for information only)
 - (D) One copy of Convair Drawing No. SK-10757-4 - STEWARDESS SWITCH PANEL (TYP - FWD & AFT SERVICE DOOR) (for information only)

Effect on Weight Empty: +5.0 pounds
Effect on Balance: +7,148 inch-pounds
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,187 Dtd _____
CHANGE NO: 158 MODEL: (880) 22-1

TITLE: Crew Safety Belt Buckle, Design of

ORIGIN: TWA requested by Letter No. 880-483, dated 20 January 1958

REASON FOR CHANGE: Customer requested.

Rejected

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+1.0 lb

+1.0 lb

+250 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

G. Simmons
Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 158

Title: Crew Safety Belt Buckle, Design of

Origin: TWA requested by Letter No. 880-483 dated 20 January 1958

Reason for Change: Customer requested.

Description of Change:

Page 106, Paragraph 3.19.1.1.6 SAFETY BELTS:

Add the following after the second sentence ending in the fourth line:

"The design of the safety belt buckle, for the pilot, copilot, flight engineer and the observer, shall be such that the shoulder harness and crotch strap can be unfastened simultaneously without unfastening the safety belt."

Page A-14, APPENDIX I-C, FURNISHINGS:

After sixth and seventh items in Description List, "Pilots' Safety Belt and Shoulder Harness" and "Flight Engineer's Safety Belt and Shoulder Harness", under Manufacturer, add:

"Pacific Scientific"

After seventh item add the following to the Description List:

"1 Observer's Safety Belt and Shoulder Harness	Pacific Scientific"
---	---------------------

Effect on Weight Empty:	+1.0 pound
Effect on Balance:	+250 inch-pound
Effect on Performance:	None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 2 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,188 Dtd _____
CHANGE NO: 157 MODEL: (880) 22- 1

TITLE: Self-Sealing Couplings in Main Wheel Brake Lines, Installation of

ORIGIN: TWA requested by Letter No. 880-405, dated 26 November 1957, and
Mock-up Review of 22 October 1957

REASON FOR CHANGE:
Customer requested.

Cancelled

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+5.0 lbs

+5.0 lbs

+4,391 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

B. J. Simons
Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 157

Title: Self-Sealing Couplings in Main Wheel Brake Lines; Installation of

Origin: TWA requested by Letter No. 880-405, dated 26 November 1957, and Mock-up Review of 22 October 1957

Reason for Change: Customer requested.

Description of Change:

Page 62, Paragraph 3.15.1.4 LINES:

Add the following to the end of the second paragraph:

"The hydraulic lines to each main wheel brake shall be provided with self-sealing couplings to be located between the lockout cylinders and the brakes."

Effect on Weight Empty: +5.0 pounds
Effect on Balance: +4,391 inch-pounds
Effect on Performance: None

The following not to appear in the Specification language:

"A total of eight (8) self-sealing couplings, equivalent to AEROQUIP No. 305503-6D, are included in the equipment items covered in this Change."

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,188 Dtd 7 February 1958

CHANGE NO: 157

MODEL: (880) 22-1

TITLE: Self-Sealing Couplings in Main Wheel Brake Lines, Installation of

ORIGIN: TWA requested by Letter No. 880-405, dated 26 November 1957, and Mock-up Review of 22 October 1957

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+7.0 lbs

+7.0 lbs

+6,147 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAT: SD

Hughes Tool Company
Change No. 157

Title: Self-Sealing Couplings in Main Wheel Brake Lines; Installation of

Origin: TWA requested by Letter No. 880-405, dated 26 November 1957, and Mock-up Review of 22 October 1957

Reason for Change: Customer requested.

Description of Change:

Page 62, Paragraph 3.15.1.4 LINES:

Add the following to the end of the second paragraph:

"Self-sealing couplings shall be installed in the hydraulic brake lines at each main wheel brake."

Effect on Weight Empty:	+7.0 pounds
Effect on Balance:	+6,147 inch-pounds
Effect on Performance:	None

The following not to appear in the Specification language:

"A total of eight (8) self-sealing couplings, of special design, are included in the equipment items covered in this Change."

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,186 Dtd _____
CHANGE NO: 156 MODEL: (880) 22-1

TITLE: Main Landing Gear Piston Head Bearing; Change in Material of

ORIGIN: Delta requested and Convair proposed for TWA

REASON FOR CHANGE: To retain uniformity of materials used in all Model 22 Airplanes.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+12.0 lbs

+12.0 lbs

+10,536

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

Rejected

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal.

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

Incorporation of this change is dependent on acceptance by both Customers.

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIN: SD

Hughes Tool Company
Change No. 156

Title: Main Landing Gear Piston Head Bearing; Change in Material of

Origin: Delta requested and Convain proposed for EWA

Reason for Change: To retain uniformity of materials used in all Model
22 Airplanes.

Description of Change:

This change has no effect on Specification language.

Effect on Weight Empty: +12.0 pounds
Effect on Balance: +10,536 inch-pounds
Effect on Performance: None

The following is not to appear in the Specification language:

"This change consists of a material change of the main landing gear piston head bearing from 7075 aluminum alloy to aluminum bronze."

Lola

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 2 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,176 Dtd 6 January 1957
CHANGE NO: 155 MODEL: (880) 22-1

TITLE: Engine Pressure Ratio Indicator System, Change of

ORIGIN: TWA requested by Letter, (no number) dated 27 December 1957.

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
Negligible	Negligible	Negligible Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS: EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED: CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
DATE: _____ Chief of Contract Administration
Commercial

CONVAL: SD

Hughes Tool Company
Change No. 155

Title: Engine Pressure Ratio Indicator System, Change of

Origin: TWA requested by Letter (no number) dated 27 December 1957.

Reason for Change: Customer requested.

Description of Change:

Page A-8, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change the 12th and 24th items in the Description List as follows:

From: "4 Pressure Ratio Indicator (Engine) Kollsman A29187-10-001"

To: "4 Pressure Ratio Indicator (Engine) Kollsman A31577-10-001"

From: "4 Engine Pressure Ratio Transmitter Kollsman A31351-00-025"

To: "4 Engine Pressure Ratio Transmitter Kollsman A27790-00-001"

Effect on Weight Empty: Negligible
Effect on Balance: Negligible
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO.: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,185 Dtd _____
CHANGE NO: 154 MODEL: (880) 22- 1

TITLE: Titanium Cowling, Door Skins and Frames, Where Heat Permits;
Change to Aluminum Alloy

ORIGIN: 1. TWA requested by Letter No. 880-413, dated 13 December 1957.
2. Convair initiated.

REASON FOR CHANGE: 1. To eliminate friction spark ignition of crash
fires.
2. To reduce weight.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-73.0 lbs

-73.0 lbs

-58,400 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 154

Title: Titanium Cowling, Door Skins and Frames, Where Heat Permits;
Change to Aluminum Alloy

Origin: 1. TWA requested by Letter No. 880-413, dated 13 December 1957.
2. Convair initiated.

Reason for Change: 1. To eliminate friction spark ignition of crash fires.
2. To reduce weight.

Description of Change:

Page 43, Paragraph 3.11.6 COWLING:

Revise the second sentence to read as follows:

"The cowling shall be of aluminum alloy, stainless steel or titanium; or a combination thereof."

Delete the third sentence:

"(The cowling frames and skin, from the engine inlet aft shall be of stainless steel or aluminum.)"

Enclosure: (A) One copy of Convair Drawing No. PP-22-054 STUDY -
MODEL 880 CONTROLLED WHEELS UP LANDING ATTITUDES -
GROUND RELATIONSHIPS (for information only)

Effect on Weight Empty: -73.0 pounds
Effect on Balance: -58,400 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 2

DATE: _____

CUSTOMER: Hughes Tool Company

NCL 10,180 Dtd 10 January 1958

CHANGE NO: 153

MODEL: (880) 22-1

TITLE: 1000-Watt Landing Lights, Installation of

ORIGIN: TWA requested by Letter No. 880-464, dated 7 January 1958.

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+5.0 lbs

+5.0 lbs

+3,250 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIL: SD

Hughes Tool Company
Change No. 153

Title: 1000-Watt Landing Lights, Installation of .

Origin: TWA requested by Letter No. 880-464, dated 7 January 1958

Reason for Change: Customer requested.

Description of Change:

Page 73, Paragraph 3.16.8.1.2 LANDING LIGHTS:

Revise the first sentence to read as follows:

"Two 1000-watt landing lights shall be provided and located so as not to create reflections into the pilots' compartment as a result of light beam interference with structure."

Effect on Weight Empty: +5.0 pounds
Effect on Balance: +3,250 inch-pounds
Effect on Performance: None

COMMERCIAL
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

REL 10,184 Dtd _____

CHANGE NO: 152

MODEL: (880) 22-1

TITLE: Foot Rest, Wedge-Shaped, Hassock Type; Provision of

ORIGIN: TWA requested by Letter No. 880-430, dated 12 December 1957

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
+ 105.0 lbs	+ 105.0 lbs	+ 85,050 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: _____

AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS: _____

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 152

Title: Foot Rest, Wedge-Shaped, Hassock Type; Provision of

Origin: TWA requested by Letter No. 880-430, dated 12 December 1957.

Reason for Change: Customer requested.

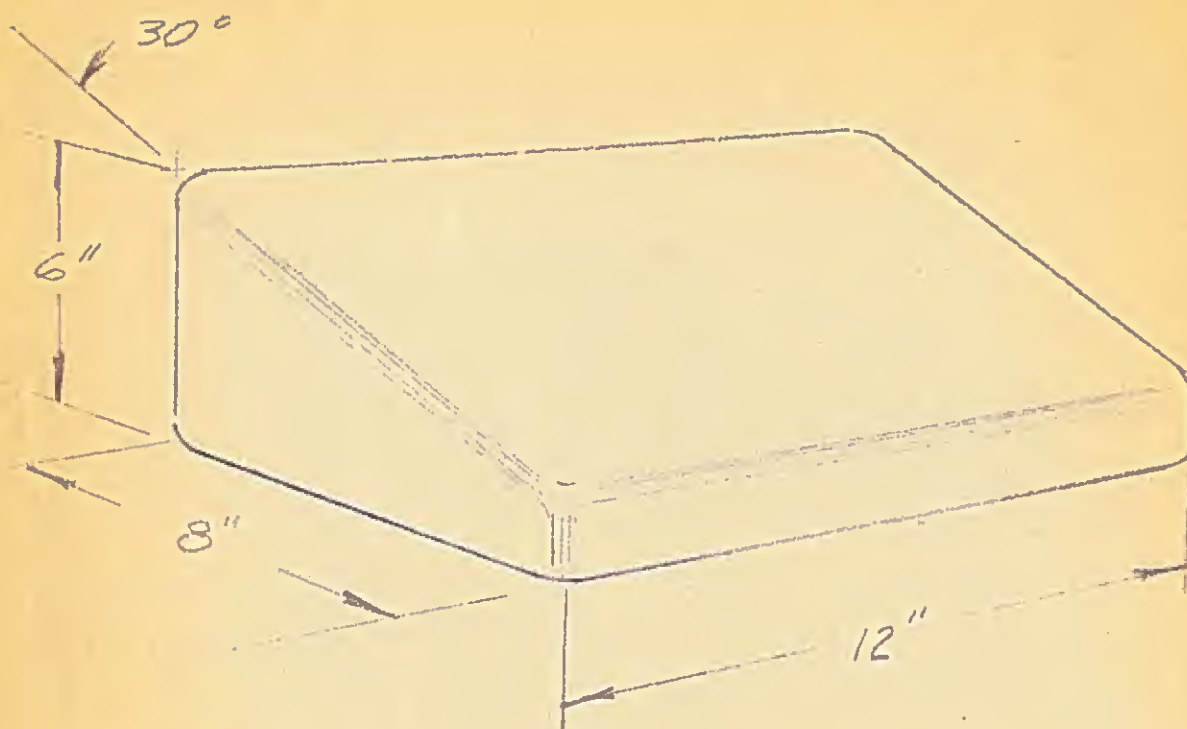
Description of Change:

Page 109, add the following new paragraph to the bottom of page:

"3.19.2.3.2 PASSENGER SEAT FOOT REST: A wedge-shaped, hassock type foot rest shall be provided, as loose equipment, for each passenger seat. The foot rest shall measure approximately 12.0" long, 8.0" wide and 6.0" high with a 30-degree slope on the 8.0" width. The foot rest shall consist of the following, or equivalent, materials: styrofoam core covered with a layer of fibreglass, padding of 1/2" polyether foam and outer cover of 20-oz/sq yard material, including two zippers."

Enclosure: (A) One copy of sketch - PROPOSED FOOT REST

Effect on Weight Empty: +105.0 pounds
Effect on Balance: +85,050 inch-pounds
Effect on Performance: None



PROPOSED FOOT REST

Title: Interior Fabric Weights, Revision to

Origin: TWA Request, Reference: Minutes of Meeting between TWA and
Convair Representative at Kansas
City on 17 December 1957, and TWA
Color Module Review of 8 and 9 May
1958.

Reason for Change: To adjust weights of fabrics selected by Customer
for interior trim, and revision to CCP No. 160.

Description of Change:

Page A-15, APPENDIX I-C, FURNISHINGS:

Revise the below listed items under "Interior Trim" as follows:

Cabin Floor Covering <i>including approximately 10 inches up</i>	55.0 oz
Cabin Floor Covering Up Sidewall <i>(TWA letter 880-879)</i>	55.0 oz
Galley, Lavatory and Entrance Floor Covering	55.0 oz
Cabin Wainscot Trim	20.0 oz
Seat Upholstering (36 doubles) Cabin	18.0 oz
Seat Upholstering (6 doubles) Lounge	16.0 oz
Seat Trim Liner (6 doubles) Lounge	20.0 oz

Effect on Weight Empty: +195.0 pounds
Effect on Balance: +163,650 inch-pounds
Effect on Performance: None

The following is not to appear in the Specification language:

The weight effects of this change will be reflected in paragraphs
3.1.2.1 and 3.1.2.2 of the Specification in a future CCP Summary
on Customer acceptance of this change.

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ED-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,183 Dtd _____
CHANGE NO: 151 MODEL: (880) 22-1

TITLE: Airline Schedule Holder, Installation of

ORIGIN: TWA requested by Letter No. 880-430, dated 12 December 1957.

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
<u>+1.0 lb</u>	<u>+1.0 lb</u>	<u>+814</u> Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:

Chief of Contract Administration
Commercial

DATE:

Title: Airline Schedule Holder, Installation of

Origin: TWA requested by Letter No. 880-430, dated 12 December 1957.

Reason for Change: Customer requested.

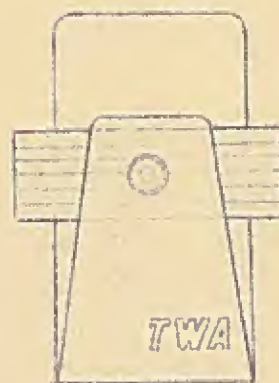
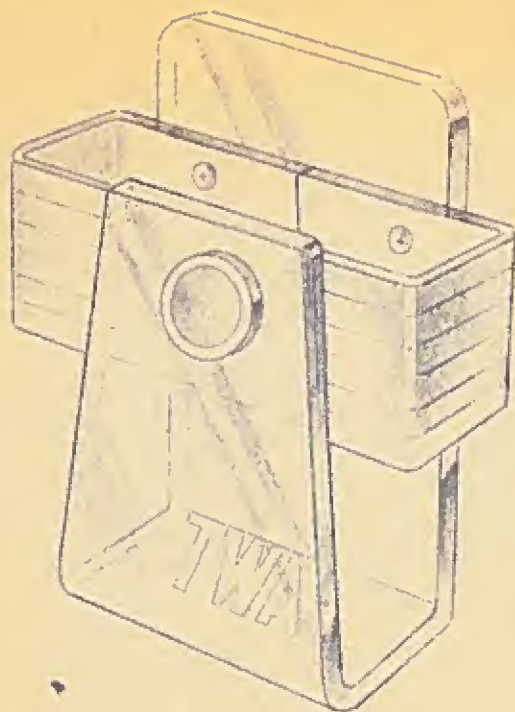
Description of Change:

Page 114, Add the following new paragraph to the page after paragraph 3.19.3.6:

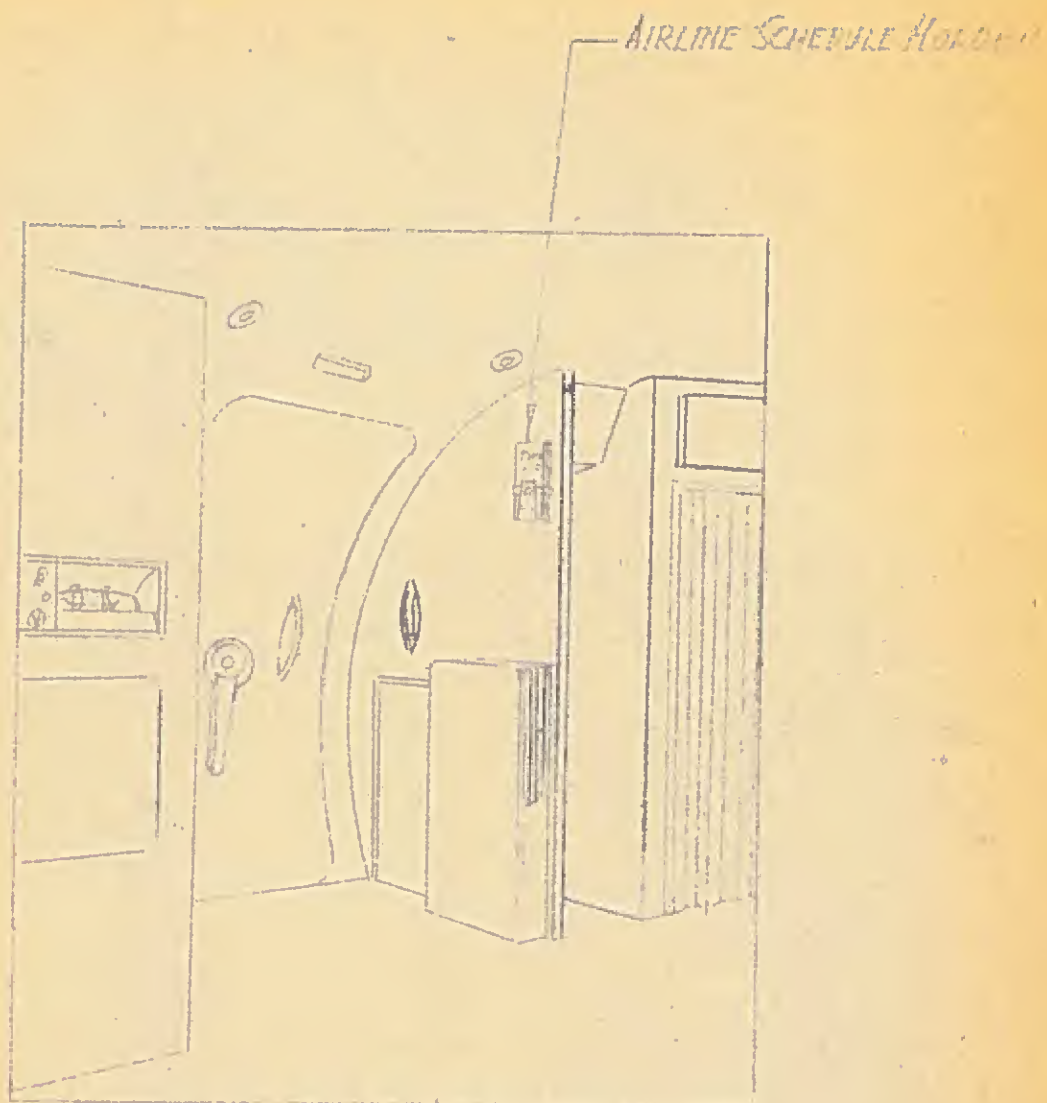
"3.19.3.7 SCHEDULE HOLDERS: Two airline schedule holders shall be installed in the passenger compartment; one on the forward lavatory partition at right of forward entrance area, and one on face of aft cabin partition at aft entrance door. Holders shall measure approximately 8" x 5" x 2-1/2".

- Inclousures:
- (A) One copy of sketch - AIRLINE SCHEDULE HOLDER
(for information only)
 - (B) One copy of sketch - AFT ENTRANCE COMPARTMENT
(for information only)
 - (C) One copy of sketch - FWD ENTRANCE COMPARTMENT
(for information only)

Effect on Weight Empty: +1.0 pounds
Effect on Balance: +8 1/4 inch-pounds
Effect on Performance: None

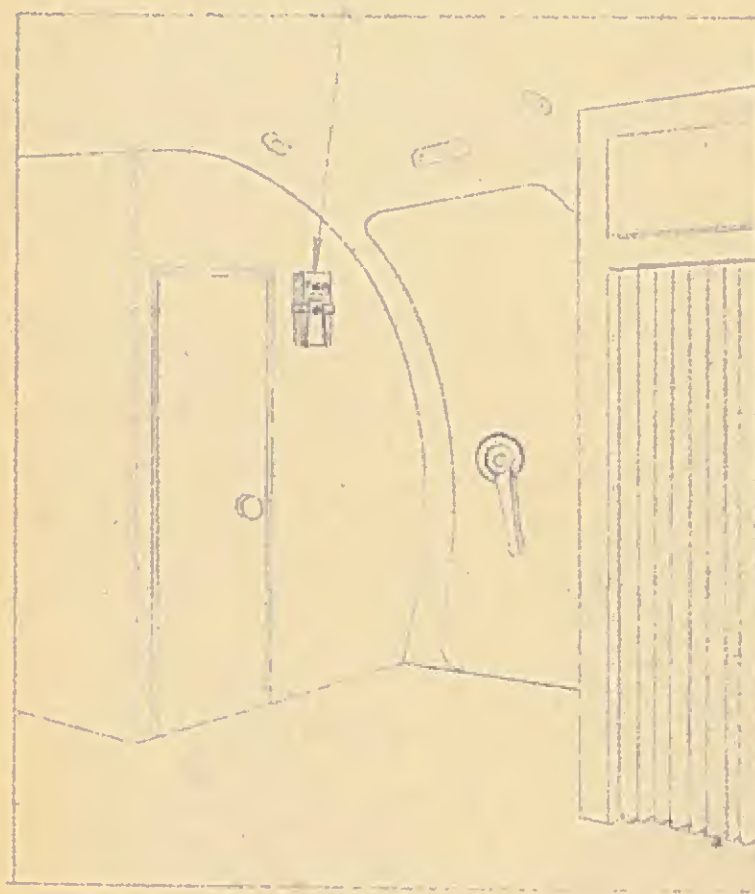


AIRLINE SCHEDULE HOLDER



AFT ENTRANCE COMPARTMENT
(L.H. SIDE LOOKING FWD & OUTBD.)

AIRLINE SCHEDULE HOLDER



FWD. ENTRANCE COMPARTMENT
(R. H. SIDE LOOKING AFT & OUTBD.)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,182 Dtd _____

CHANGE NO: 150

MODEL: (880) 22-1

TITLE: **Rivets in Wing Leading Edges, Use of**

ORIGIN: **Convair initiated.**

REASON FOR CHANGE: **To reduce weight.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-11.6 lbs

-11.0 lbs

-8,470 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 150

Title: Rivets in Wing Leading Edges, Use of

Origin: Convair initiated.

Reason for Change: To reduce weight.

Description of Change:

Page 5, Paragraph 1.1 BASIC TYPE:

In second line of second paragraph from top of page, change the period after "nuts" to a comma, and add the following:

"except that it will be permissible to use rivets to attach the wing leading edge section to the forward legs of the piano hinges."

Effect on Weight Empty: -11.0 pounds
Effect on Balance: -8,470 inch-pounds
Effect on Performance: None

A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ED-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MEL 10,195 Dtd _____

CHANGE NO: 149A

MODEL: (880) 22-1

TITLE: Single Loop, A-C Penval Fire Detector System, Installation of

ORIGIN: Verbal request of TWA and Delta for a single loop system.

REASON FOR CHANGE: Customer requested, and revision to CCP No. 149

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

-26.0 lb

-26.0 lb

-21,243 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANE(S) AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

Title: Single loop, A-C Nacwal Fire Detector System, Installation of

Origin: Verbal request of TWA and Delta for a single loop system.

Reason for Change: Customer requested, and revision to CCP No. 149.

Description of Change:

Page 86, Paragraph 3.16.17 ESSENTIAL POWER:

Under "AC Emergency", add the following new item after "Engine Instruments":

"Engine Nacelle Fire Detector"

Page 86, Paragraph 3.16.17 ESSENTIAL POWER:

Under "AC Emergency", delete the first item under "Warning" (Engine Fire Detector) and renumber the remaining items 1 through 5.

Page 116, Paragraph 3.19.4.2.1 GENERAL:

Revise the first sentence to read as follows:

"Single loop, AC operated, discrete sensing, continuous type fire detectors shall be installed in the pylons and nacelles, including the engine compressor-accessory section and the engine burner and turbine section."

Figure 3.19-9 FIRE DETECTOR SYSTEM

Replace above figure in Specification with Enclosure (A).

Enclosure (A): One (1) copy of Figure 3.19-9 FIRE DETECTOR SYSTEM,
ENGINE NACELLES AND PYLONS (revised 1-23-58)

Effect on Weight Empty: -26.0 pounds
Effect on Balance: -21,243 inch-pounds
Effect on Performance: None

1-23-58

FIRE DETECTOR SYSTEM ENGINE NACELLES & PYLONS

WARNING LIGHTS

BLINKING LIGHTS — TURBINE COMPARTMENT

STEADY LIGHTS - ACCESSORY COMPARTMENT & PYLONS

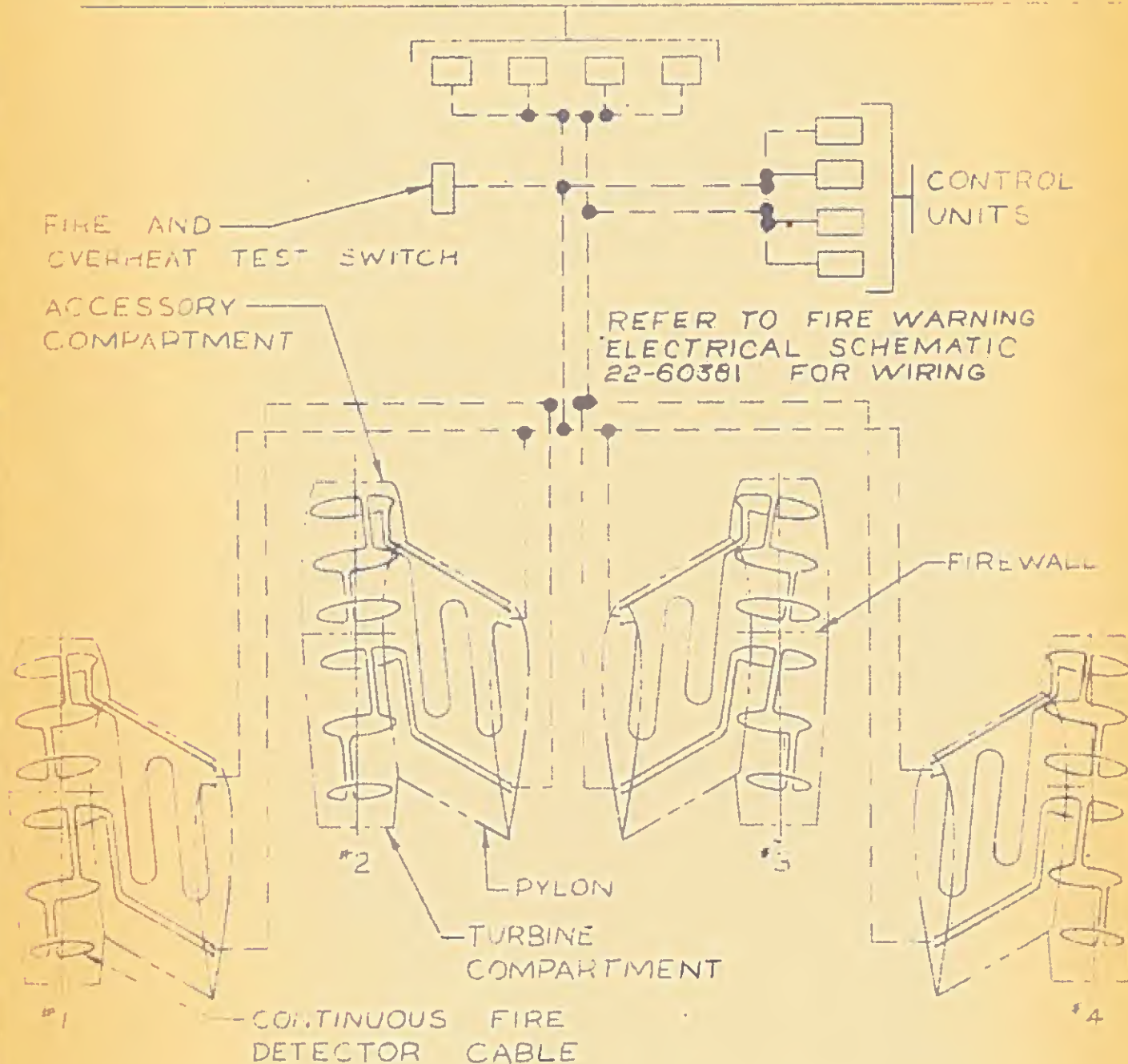


FIGURE 3.19-9

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL -- Dtd --
CHANGE NO: 148 MODEL: (880) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated.**

REASON FOR CHANGE: **To clarify the intent of the Specification.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	0 Inch Lb.
0	0	

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 148

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 119, Paragraph 3.20.1.2 AIR CONDITIONING CONTROLS:

Add the following to the end of the first paragraph:

"A dual airflow indicator shall be installed to indicate the cabin (RH) and flight deck (LH) compressor airflows. The indicator shall be located on the flight deck. A bearing temperature indicator and a RPM indicator shall be installed on the flight deck for each turbo-compressor."

Delete the second paragraph: "(A dual airflow indicator which will indicate compressor inlet and out pressure (inches of Hg) shall be installed for each compressor duct.)"

Figure 3.20-1 AIR CONDITIONING SCHEMATIC

Replace above figure in Specification with Enclosure: (A)

Enclosure: (A) One (1) copy of Figure 3.20-1 AIR CONDITIONING PRESSURIZATION SYSTEM

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

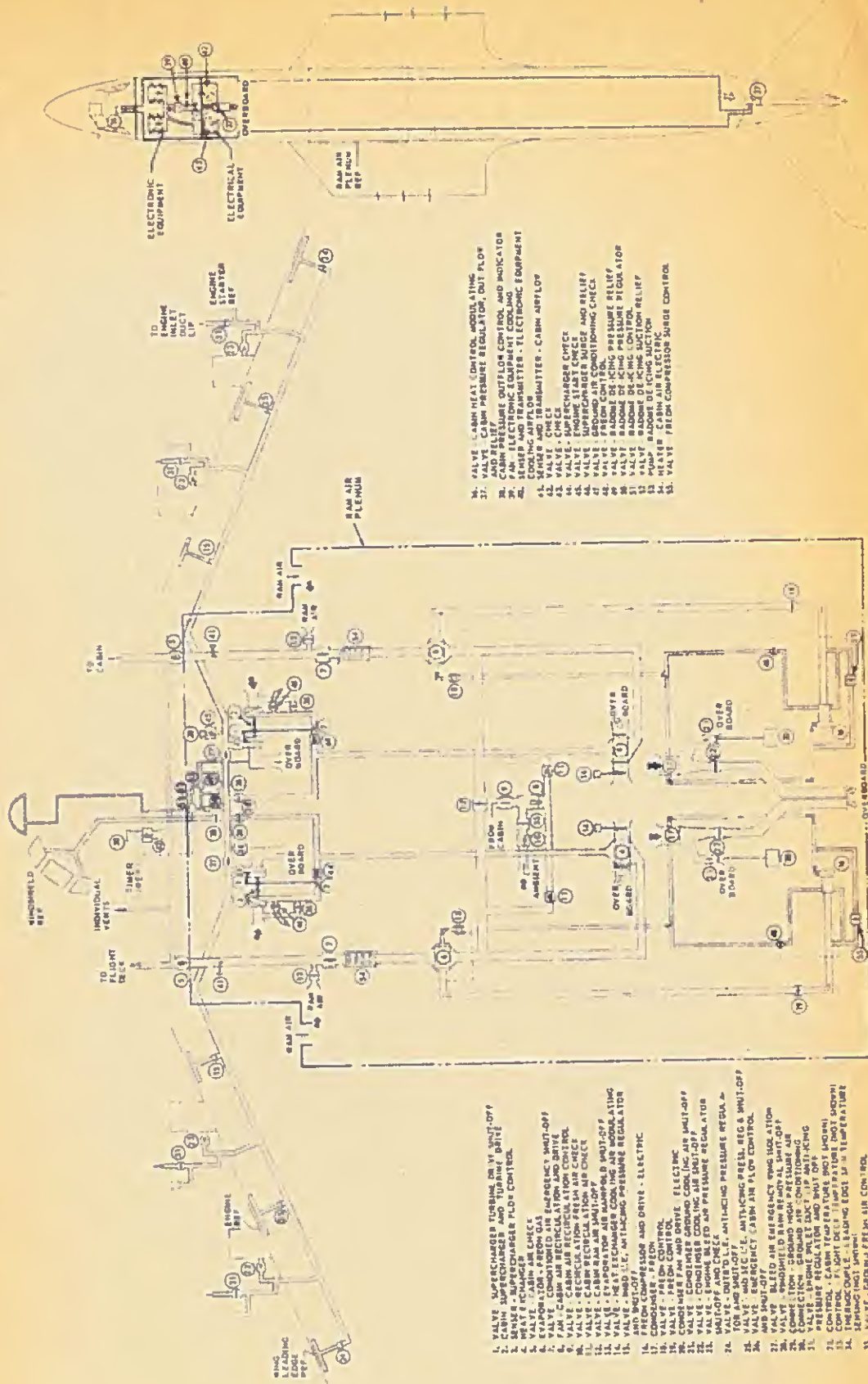


FIGURE 3.20-1

A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,171 Dld _____

CHANGE NO: 147

MODEL: (880) 22-1

TITLE: Water Tank Quantity Gage, Installation of

ORIGIN: TWA requested by Letter No. 880-400 dated 21 November 1957

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+6.0 lbs

+6.0 lbs

+3,603

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

Rejected

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:
CCP No. 22B

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 147

Title: Water Tank Quantity Gage, Installation of

Origin: TWA requested by Letter No. 880-400, dated 21 November 1957

Reason for Change: Customer requested.

Description of Change:

Page 108, Paragraph 3.19.2.1.4 WATER SYSTEM:

Add the following after the sixth sentence ending in the eighth line:

"A remote reading water tank quantity gage, actuated by a transmitter, shall be installed on the fuselage exterior tank servicing panel, which shall be readily visible to the ground servicing personnel."

Effect on Weight Empty: +6.0 pounds
Effect on Balance: +3,603 inch-pounds
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL -- Dtd ---
CHANGE NO: 145 MODEL: (880) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated.**

REASON FOR CHANGE: **To clarify the intent of the Specification.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 145

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 29, Paragraph 3.7.1.5.1 MAIN ENTRANCE DOORS:

Revise the paragraph to read as follows:

"Two main entrance doors, with an average width of approximately 30 inches and a height of 74 inches, shall be provided on the left side of the passenger compartment; one forward of the wing and one aft of the wing."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

EXHIBIT "A"

The following is not to appear in Specification language:

The attached CCP indicates an average door width of not less than 30 inches. This average width is the total opening area divided by the height of 74 inches.

The following minimum dimensions are given for information to further define the size of the main entrance door openings:

- | | |
|---|-------|
| a. Width at top of door neglecting corner radii | 36.2" |
| b. Width at bottom of door neglecting corner radii | 26.0" |
| c. Width of flat door sill considering corner radii
(at floor level) | 20.0" |
| d. Clear opening width at height of 24.5" above floor | 29.5" |

This dimension is clear opening between door tracks at 24.5" above floor and increases above this point.

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,173 Dtd 17 December 1957

CHANGE NO: 144

MODEL: (880) 22-1

TITLE: Lavatory Hot Water Provisions, Installation of

ORIGIN: TWA requested by Letter No. 880-406 dated 12 December 1957.

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty + 31.0 lbs	Oper. Wt. Empty - - - - - +39.0 lbs	+26,565 +33,589	Inch Lb. Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: _____

AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS: _____

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: Lavatory Hot Water Provisions, Installation of

Origin: TWA requested by Letter No. 880-406, dated 12 December 1957.

Reason for Change: Customer requested.

Description of Change:

Page 108A, Paragraph 3.19.2.2 LAVATORIES:

Revise the third sentence to read as follows:

"A wash basin, with a 3/4-inch diameter drain, a manually-operated drain stopper with easily replaceable seal, one each hot water and cold water household type spring-loaded faucets so designed that passengers may wash their hands with running water, shall be provided in each lavatory."

Add the following after the above sentence:

"A 2-quart capacity hot water tank, equipped with electrical heating elements, shall be installed, one in the forward lavatory and one aft to supply hot water to each lavatory wash basin."

Figure 3.19-2 AFT WATER SYSTEM SCHEMATIC

Revise figure as required to show above change.

Effect on Weight Empty:	+31.0 lbs	Effect on Balance:	+26,565 inch-pounds
Effect on Useful Load:	+ 8.0 lbs		+ 7,024 inch-pounds
Effect on Oper. Weight Empty:	+39.0 lbs		+33,589 inch-pounds
Effect on Performance:	None		

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 2

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,179 Dtd 13 January 1958

CHANGE NO: 143

MODEL: (880) 22-1

TITLE: D-C Driven Hydraulic Pump, Installation of

ORIGIN: TWA requested; Reference: Meeting of 20-22 November 1957 in Kansas City between TWA and Convair representatives.

REASON FOR CHANGE: Customer requested.

Rejected

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty	Oper. Wt. Empty	
Proposal "A" +129.0	+129.0 lbs	Proposal "A" +107,465 inch-lb
Proposal "B" + 59.0	+ 59.0 lbs	Proposal "B" + 43,203 inch-lb

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 143

Title: D-C Driven Hydraulic Pump, Installation of

Origin: TWA requested; Reference: Meeting of 20-22 November 1957 in
Kansas City between TWA and Con-
vair representatives.

Reason for Change: Customer requested.

Description of Change:

PROPOSAL "A"

Page 62, Paragraph 3.15.1.1 DESCRIPTION AND COMPONENTS:

Add the following to the end of paragraph:

"A D-C electrically driven hydraulic pump, of approximately 1/2 GPM capacity, shall be installed in the hydraulic compartment to recharge the main wheel brake system on the ground. The pump inlet shall be connected to No. 2 reservoir."

Page 66,

Add the following new paragraph to the page, under paragraph 3.15.2.3:

"3.16.2.3.1 HYDRAULIC PUMP MOTOR BATTERY: One 60 ampere-hour storage battery shall be provided to supply direct current to the electrically driven hydraulic pump described in paragraph 3.15.1.1. A pump control relay shall be installed near the battery with the necessary wiring, and control shall be through a switch on the flight engineer's hydraulic panel."

Figure 3.15-1 HYDRAULIC SYSTEM

Revise figure as required to reflect this change.

Effect on Weight Empty: +129.0 pounds
Effect on Balance: +107,465 inch-pounds
Effect on Performance: None

PROPOSAL "B"

Page 62, Paragraph 3.15.1.1 DESCRIPTION AND COMPONENTS:

Add the following to the end of paragraph:

"A D-C electrically driven hydraulic pump, of approximately 1/2 GPM capacity, shall be installed in the hydraulic compartment to recharge the main wheel brake system on the ground. The pump inlet shall be connected to No. 2 reservoir."

Page 79,

Add the following new paragraph to the page, under paragraph 3.16.10.4:

"3.16.10.4.1 EXTERNAL D-C POWER RECEPTACLE: A D-C power receptacle shall be installed in the nose wheel well to provide direct current from a ground source to the electrically driven hydraulic pump described in paragraph 3.15.1.1. A pump control relay shall be installed adjacent to the power receptacle, with the necessary wiring, and control shall be through a switch on the flight engineer's panel. A bracket shall be installed in the nose wheel well side wall to accommodate the D-C power receptacle."

Figure 3.15-1 HYDRAULIC SYSTEM

Revise figure as required to reflect this change.

Effect on Weight Empty: +59.0 pounds
Effect on Balance: +43,203 inch-pounds
Effect on Performance: None

CONVAIR: SD

Hughes Tool Company
Change No. 143

EXHIBIT "A"

The following is not to appear in the Specification language:

The below listed items are included in the equipment covered in this change:

D-C Driven Hydraulic Pump, PESCO, P/N 111046-040 (modified for
use with Skydrol)

60 Ampere-Hour Battery, SONOTONE, TYPE 19-60H102

CONVAIR: SD

Hughes Tool Company
Change No. 142

Page 1 of 2

Title: Customer Furnished Passenger Seats

Origin: TWA request; Ref.: TWA Letter No. 880-445 dated 20 December 1957

Reason for Change: To provide for installation of Buyer furnished seats
in lieu of Convair furnished seats.

Description of Change:

Page 105, Paragraph 3.19.1.1 SEATS:

Revise first sentence to read as follows:

"All seats, except Buyer furnished passenger seats, shall be equipped
with "

Page 106, Paragraph 3.19.1.1.5 PASSENGER SEATS:

Delete the entire paragraph and replace with the following:

"PASSENGER SEATS: Provisions consisting of attach fittings only
shall be made for the installation of 36 double Buyer furnished
passenger seats. These seats shall be interchangeable with Convair
seats in respect to attach point locations and attach fitting con-
figuration. Passenger seat arrangement shall be as shown on Figure
1-2."

Page 106, Paragraph 3.19.1.1.5.1 SEAT BACK MOVEMENT:

Delete the entire paragraph.

Page 106, Paragraph 3.19.1.1.6 SAFETY BELTS:

Revise first sentence to read as follows:

"Buyer approved commercial type safety belts shall be provided on
all crew and club area seat accommodations."

Add the following to the end of paragraph:

"Buyer furnished passenger seats shall include passenger safety belts."

Page A1-1 APPENDIX I-B CUSTOMER FURNISHED - CUSTOMER INSTALLED
EQUIPMENT:

Add the following to end of equipment list:

"36 Double Passenger Seats (including fabric and safety belts and excluding attach fittings)"	1759.0 lbs
"72 Passenger Trays (stowed in seat pocket)	144.0 lbs

Page A14 APPENDIX I-C FURNISHINGS:

Delete the fourth item in the equipment list:

"36 Passenger Seat (Double)"

Change the ninth item in the equipment list:

From: "84 Passenger Seat Belt"

To: "12 Passenger Seat Belt"

Page A-15 APPENDIX I-C FURNISHINGS:

Change the twenty-first item in the equipment list:

<u>From:</u> "84 Passenger Trays (72 stowed in seat pocket and 12 stowed in club area)"	168.0 lbs
--	-----------

<u>To:</u> "12 Passenger Trays (stowed in club area)"	24.0 lbs
---	----------

Change the twenty-second item as follows:

<u>From:</u> "36 Double Passenger Seats (including fabric and belt)"	1800.0 lbs
---	------------

<u>To:</u> "36 Sets of Seat Attachment Fittings"	41.0 lbs
--	----------

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPRC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

NCL 10,175 Dtd 3 January 1958

CHANGE NO: 142

MODEL: (880) 22-1

TITLE: Customer Furnished Passenger Seats

ORIGIN: TWA request; Ref.: TWA Letter No. 880-445 dated 20 December 1957.

REASON FOR CHANGE: To provide for installation of Buyer furnished passenger seats in lieu of Convair furnished seats.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Char. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

TWA CCP No. 40A

Engineering Approval

DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: Revised 20 Feb. 1958

CUSTOMER: Hughes Tool Company

MCL 10,169 Dtd 29 November 1957

CHANGE NO: 141A

MODEL: (880) 22-

TITLE: Bilingual Passenger Signs, Installation of

ORIGIN: TWA requested by Letter No. 880-404, dated 25 November 1957; and Letter No. 8808-68 dated 30 December 1957.

REASON FOR CHANGE:
Customer requested; and revision to CCP 141, to delete emergency exit bilingual sign requirements.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
+6.0 lb	+6.0 lb	+5,287 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: _____ AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS: _____ EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED: _____ CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
Chief of Contract Administration

DATE: _____ Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 141A

Title: Bilingual Passenger Signs, Installation of

Origin: TWA requested by Letter No. 880-404, dated 25 November 1957;
and Letter No. 880S-68 dated 30 December 1957.

Reason for Change: Customer requested; and revision to CCP 141, to
delete emergency exit bilingual sign requirements.

Description of Change:

Page 77, Paragraph 3.16.8.3.6 SIGNS:

Add the following sentence to end of paragraph:

"The "Fasten Seat Belts - No Smoking" and the lavatory "Occupied -
Vacant" signs shall be bilingual; in English and in French."

Page 112, Paragraph 3.19.2.8.10 PLACARDS:

Add the following item to the placard list:

"Lavatory doors (1 over each door, bilingual, English and French)"

Page A3, APPENDIX I-C, ELECTRICAL EQUIPMENT:

Change the 11th and 12th items as follows:

From: "3 Lavatory "Occupied" Signs"

To: "3 Lavatory "Occupied-Vacant" Signs (bilingual; English and
French)"

From: "2 Fasten Seat Belts - No Smoking Signs"

To: "4 Fasten Seat Belts - No Smoking Signs (bilingual; English
and French)"

Page A14, APPENDIX I-C, FURNISHINGS:

Change next to last item in Description List as follows:

From: "2 Lavatory "Occupied" Signs"

To: "3 Lavatory "Occupied-Vacant" Signs (bilingual; English and
French)"

Effect on Weight Empty: +6.0 pounds
Effect on Balance: +5,287 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: 3D-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,177 Dtd _____

CHANGE NO: 140

MODEL: (880) 22-1

TITLE: P.A. and Interphone System, Changes to

ORIGIN: Customer request.

REASON FOR CHANGE: To assure standardization of components.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

Negligible

Negligible

Negligible Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LAST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 140

Title: P.A. and Interphone System, Changes to

Origin: Customer request.

Reason for Change: To assure standardization of components.

Description of Change: This change has no effect on present Specification language.

Effect on Weight Empty: Negligible
Effect on Balance: Negligible
Effect on Performance: None

The following not to be a part of the Specification language:

Change the following items:

From: "Three (3) Remler handsets #W-75675-2 including a three conductor coiled cord, a 1000 OHM Receiver and a Western Electric WE310 connector."

To: "Three (3) Remler Handsets #W-100154 including a four conductor coiled cord, a 600 OHM Receiver and a Cannon XLR4-11C connector."

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPWC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,161 dtd 6 November 1957

CHANGE NO: 139

MODEL: (880) 22-1

TITLE: Automatic Wheel Braking, Installation of

ORIGIN: TWA requested by Letter No. 880-323 dated 20 September 1957

REASON FOR CHANGE: Customer requested.

Rejected

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+ 15.0 lbs

+ 15.0 lbs

+ 13,818 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: Automatic Wheel Braking, Installation of

Origin: TWA requested by Letter No. 880-323 dated 20 September 1957

Reason for Change: Customer requested.

Description of Change:

Page 34, Paragraph 3.8.2.2 WHEELS, BRAKES AND BRAKE CONTROL SYSTEMS:

Add the following after the seventh sentence ending in the 15th line:

"Means shall be installed for automatic braking of all main landing gear wheels to a complete stop prior to retraction into the wheel wells. Braking shall be accomplished by actuating the main wheel brake metering valves by means of hydraulically actuated cylinders, spring loaded to the off position. The brakes shall be applied after the main gear has retracted approximately 15 degrees."

Page 35, Paragraph 3.8.4.2 WHEELS AND BRAKES:

Add the following after the fifth sentence ending in the eleventh line:

"Means for automatic braking of the nose landing gear wheels shall be installed. The metering valve actuating cylinders, described in paragraph 3.8.2.2, shall actuate the nose wheel brake metering valve through the normal brake linkage."

Figure 3.8-2 HYD. WHEEL BRAKE SCHEMATIC

Figure 3.15-1 HYDRAULIC SYSTEM

Revise the above figures as required to reflect changes.

Effect on Weight Empty: +15.0 pounds
Effect on Balance: +13,818 inch-pounds
Effect on Performance: None

E. O. N. V. A. T.
A Division of General Dynamics Corporation
San Diego, California

CONTRACTUAL CHANGE PROPOSAL

SPEC. NO.: SD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,162 Dtd _____

CHANGE NO.: 137

MODEL: (880) 22-1

TITLE: Retractable Device for Pilot's and Copilot's Seat Belts

ORIGIN: Customer requested, Reference: TWA Letter 880-328 dated 24 September 1957

REASON FOR CHANGE: To prevent the belt buckle from dropping and causing possible damage to the console or mounted instruments.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+0.5 lb

+0.5 lb

+118

Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

Rejected

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

APPROVED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 137

Title: Retractable Device for Pilot's and Copilot's Seat Belts

Origin: Customer requested, Reference: TWA Letter 880-328 dated 24
September 1957

Reason for Change: To prevent the belt buckle from dropping and causing
possible damage to the console or mounted instruments.

Description of Change:

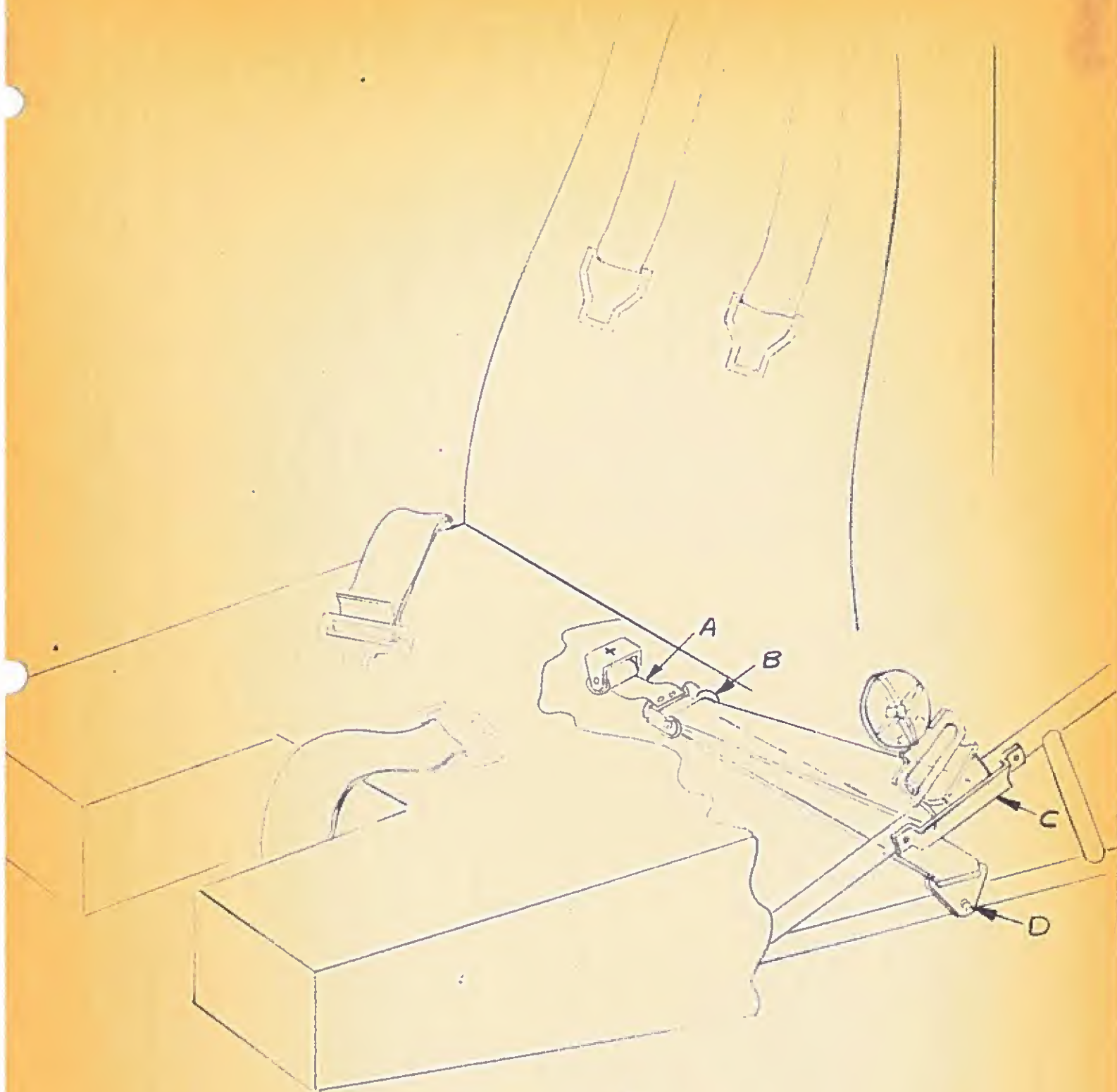
Page 106, Paragraph 3.19.1.1.6 SAFETY BELTS:

Add the following new sentence to the end of the paragraph:

"In addition, a device shall be installed to retract the left hand
side of the pilot's and copilot's safety belts."

Enclosure: (A) One (1) copy sketch - Seat Belt Retractor Installation,
with copy of description of installation and function.

Effect on Weight Empty: +0.5 pounds
Effect on Balance: +118 inch-pounds
Effect on Performance: None



SEAT BELT RETRACTOR INSTL.

Per attached sketch, attach a spool mounted flat spring (A) to underside of seat bottom. Through self energizing action, spring winds up on spool when no unwinding load is applied. The free end of the spring is attached to a roller (B) of width to accommodate safety belt width.

When installing, belt is passed through guide (C), around roller (B) and then anchored to seat structure at point (D). Retracting action of spring (A) holds belt buckle at guide (C). When the two belt halves are joined around a seat occupant, the belt forms a straight line between (C) and (D). Therefore no belt loads are taken out by the retraction mechanism.

This concept requires that belt adjustment for length be accomplished at the buckle as shown, rather than near the belt anchor point as presently accomplished. However, adjusting at the buckle location should be more convenient.

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL _____ Dtd _____

CHANGE NO: 135

MODEL: (880) 22-1

TITLE: Deletion of Appendix I-C Items

ORIGIN: Convair initiated.

REASON FOR CHANGE: To delete inconsequential items from Appendix I-C.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: Deletion of Appendix I-C Items

Origin: Convair initiated.

Reason for Change: To delete inconsequential items from Appendix I-C.

Description of Change:

Delete the following items from the APPENDIX I-C Section:

Page A2, Power Plant Equipment

Delete: Asterisk (*) from first line and *note at bottom of page.

Under: Fuel System Equipment

Delete: 4 Fuel Tank Caps

Page A3, Electrical Equipment

Under: Interior Lights

Delete: AR Belly Cargo Dome Light
2 Service Door Light
1 Buffet Compartment Light
2 Lavatory Compartment Light
AR Ceiling and Aisle Light
AR Passenger Reading Light, L.H.
AR Passenger Reading Light, R.H.
AR Cockpit Light
3 Return to Cabin Signs
3 Lavatory Occupied Signs
2 Fasten Seat Belt - No Smoking Signs
AR Accessory Compartment Light
AR Coat Compartment Light

Add: AR Passenger Reading Lights

NOTE: Not to be part of Specification language:

All interior lights have been reviewed by Convair Engineering and it has been determined that available off-the-shelf lights would not be suitable, in Convair's opinion, for the Model 22 airplane. Therefore all interior lights will be designed to Convair's specifications and bear a Convair part number. Convair has incorporated these items on the deletion list since interchangeability with other aircraft will not be achieved.

Page A4, Electrical Equipment

Delete the following items:

- 1 Position Light Flasher
- 1 Flap Take-Off Warning Horn Interrupter
- 2 Flare Release Solenoids
- 6 Shaver Outlet Receptacles
- 1 Utility Receptacle

Page A6, Electrical Equipment

Under: Interphone System (Service)

Delete: Jack Box

Page A7, Electronic Equipment

Under: VHF Communication

Delete: *2 Antenna (External) Boeing

Under: HF Communication

Delete: *1 Antenna (Flush Type) Convair

Under: VHF Navigation System

Delete: *1 Antenna (Flush Type) Convair

Page A8, Instruments and Related Equipment

Delete the following items:

- AR Anti-Icing Air Temperature Indicator
- AR Structural Temperature Overheat Indicator
- 4 Reverse Thrust Indicating Lights

Page A9, Instruments and Related Equipment

Under: Autopilot (Bendix Type PB-20)

Delete: *2 Pilot's Release Switches

*NOTE: Not to be a part of Specification language:

"Items which have been deleted by Page Rev. 12-10-57."

Page A10, Instruments and Related Equipment

Under: Kollsman Integrated Instrument System

Delete: 1 Computer Selector Switch Kollsman
1 Warning Light Convair
4 Oil Pressure Low Indicating Lights
2 Cabin Temperature Thermometer (Mercury)
*1 Cockpit Temperature Indicator

Page A11, Hydraulic Equipment

Delete the following items:

AR Check Valve
6 Spoiler Control Valve
4 Hydraulic Pressure Switch
3 Landing Gear Unlatch Cyclinder
AR Resistors
4 Landing Gear Sequence Valve
2 Landing Gear Selector Valve
1 Yaw Damper Control Valve

Page A12, Hydraulic Equipment

Delete the following items:

1 Shuttle Valve
4 Run Around Valve (Door Cylinders)
1 Emergency Generator Shutoff Valve

Page A14, Furnishings

Delete the following items:

2 Pilots' Seats
1 Flight Engineer's Seat
3 Stewardess' Seats
40 Passenger Seats (Double)
2 Lounge Seats (Double)
3 Wash Basins, Valves and Hardware (including
integral soap dish)
3 Toilet Tissue Dispensers
3 Soap Dispensers
3 Sanitary Napkin Dispensers

*NOTE: Not to be a part of Specification language:

"Items which have been deleted by Page Rev. 12-10-57."

Page A14, Furnishings (Cont)

Delete the following items (cont)

- 2 Stewardess Switch Panel
- 3 Linen Towel Dispensers
- 3 Cleaning Tissue Dispensers
- 3 Waste Containers
- 3 Ash Trays (Lavatory)
- *AR Lavatory Water Tanks
- 3 Wash Basin Mirrors
- 3 Toilets, Disposal Tanks, and Hardware
- 2 Stewardess Call Chimes
- 3 Lavatory Assist Handles
- 3 Lavatory Coat Hooks (Flush Type)
- 2 Pilots' Coat Hooks (Flush Type)
- 2 Lavatory Signs "No Smoking - Return to Cabin"
- 2 Lavatory "Occupied" Signs
- 1 Deoderant Cannister

<u>Add:</u>	2 Pilots' Seats	Convair	22-91502
	1 Flight Engineer's Seat	Convair	22-91500
	3 Stewardess Seats	Convair	
	40 Passenger Seats (Double)	Convair	
	2 Lounge Seats (Double)	Convair	
	2 Stewardess Switch Panel	Convair	

Page A16, Furnishings

Delete the following items:

- 1 Airplane Check-off List
- 1 Spare Lamp Box
- 2 Entrance Compartment Switch Panels
- 1 Airplane Log Book Holder
- 1 Flight Manual (CAA Approved)
- 1 Maintenance and Operating Manual
- 2 Pitot Heads
- 4 Static Pressure Ports
- 1 Static Pressure Ports (Alternate)
- 6 Emergency Lights

*NOTE: Not to be a part of Specification language:

"Items which have been deleted by Page Rev. 12-10-57."

Page A18, Oxygen Equipment

Delete the following items:

- 1 Buildup and Vent Valve
- AR Outlets
- 1 Oxygen Converter
- 1 Quantity Gage
- 1 Filler Valve
- 1 pr. Asbestos Gloves

Page A19, Pyrotechnics

Change the following item

From: 2 Flare Dispensers 13.0 lb

To: 2 Flare Disepnsers 13.0 lb Convair 22-98301

Page A21, Fire Extinguishing Equipment

Delete the following items:

- AR Double Check Tees
- AR Directional Valves
- 3 Portable Water Bottles
- 4 Fire and Overheat Detector Panels
- AR Fire Detectors

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

5. INITIAL CATCH PERCENT

NAME :

DECL 10,170 Dtd 17 December 1957

MODEL: (880) 22-1

REASON: Customer request.

REASON FOR CHANGE: To comply with CAR requirements. Ref.: CAR Amendment 40-6

		EFFECT ON WEIGHT *	EFFECT ON BALANCE *	
Quar. Wt. Empty		Oper. Wt. Empty		
Proposal No.1	+22.0	+ 22.0 lbs	+16,946	Inch Lb.
Proposal No.2	+53.8	+ 53.8 lbs	+48,110	Inch Lb.

PROFIT IN GUARANTEED PERFORMANCE: *	Proposal No. 1	None
	Proposal No. 2	None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

AIRPLANE(S) AFFECTED:

EFFECT ON PRICE PER AIRPLANE:

Recurring:

Non-Recurring

Total:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 134A

Title: CAA Flight Data Recorder

Origin: Customer request.

Reason for Change: To comply with CAA requirements. Ref.: CAR Amend-
ment 40-6

PROPOSAL No. 1

Description of Change:

Page 61, Paragraph 3.14 INSTRUMENTS AND NAVIGATIONAL EQUIPMENT:

Add the following new paragraph:

"3.14.3.9 FLIGHT DATA RECORDING PROVISIONS: Mounting provisions consisting of a raised platform, support legs, sway braces, brackets, tubing and wiring shall be made in the hydraulic compartment for the later installation of a General Mills No. 601000C recorder and a No. 600207 amplifier. Aluminum tubing shall be installed from the co-pilot's static and pitot lines to the recorder location and shall be capped. Wiring shall include installation of one circuit breaker."

Effect on Weight Empty: +22.0 pounds
Effect on Balance: +16,946 inch-pounds
Effect on Performance: None

PROPOSAL No. 2

Page 61, Paragraph 3.14 INSTRUMENTS AND NAVIGATIONAL EQUIPMENT:

Add the following new paragraph:

"3.14.3.9 . FLIGHT DATA RECORDER: A General Mills No. 601000C recorder and a No. 600207 amplifier shall be installed in the hydraulic compartment. Aluminum tubing shall be installed from the co-pilot's static and pitot lines to the recorder. Wiring shall include the installation of one circuit breaker."

Page A10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Add the following to the equipment list:

Flight Data Recorder

1 Recorder	General Mills	601000C
1 Amplifier	General Mills	600207

Effect on Weight Empty: +53.8 pounds
Effect on Balance: +48,110 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL _____ Dtd _____

CHANGE NO: 133A

MODEL: (880) 22-1

TITLE: Specification Administrative Change

ORIGIN: Convair initiated.

REASON FOR CHANGE: To clarify the intent of the Specification; and
revision to CCP No. 133.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification; and
revision to CCP No. 133.

Description of Change:

Page 45, Paragraph 3.12.4.2.1 GENERATOR DRIVE OIL SYSTEM:

Change paragraph title to "CONSTANT SPEED DRIVE OIL SYSTEM"

In third line, delete the word "generator".

Revise the third sentence as follows:

"The constant speed drive oil system shall be independent of the
engine oil system."

Add the following new sentence to the end of the paragraph:

"The constant speed drive oil system shall be designed for use
with MIL-L-7808 oil."

Page 45, Paragraph 3.12.4.2.2 GENERATOR DISCONNECTS:

Change the paragraph title to "CONSTANT SPEED DRIVE DISCONNECTS"

Delete the word "generator" in the first sentence.

Page 45, Paragraph 3.12.4.2.3 GENERATOR MALFUNCTION DETECTOR:

Change the paragraph title to "CONSTANT SPEED DRIVE MALFUNCTION
DETECTOR"

Delete the word "generator" in the first sentence.

Page 46, Paragraph 3.12.5.1 AIR INLET:

Change the paragraph title to "AIR INLET ANTI-ICING"

Page 46, Paragraph 3.12.6 EXHAUST SYSTEM:

Delete the paragraph and substitute the following:

"A reverse thrust unit and sound suppressor shall be provided in place of an exhaust tailpipe. All parts exposed to engine exhaust gases shall be fabricated from corrosion resistant material."

Page 47, Paragraph 3.12.8.2 OIL LOW PRESSURE AND TEMPERATURE INDICATION WARNING:

Revise paragraph title to read "OIL LOW PRESSURE AND TEMPERATURE INDICATORS"

Page 53, Paragraph 3.12.9.13.2 REFUELING CONTROLS:

Revise the second sentence to read as follows:

"The panels shall contain fuel quantity gages, shutoff controls for each tank, selector controls for refueling and defueling and jacks for service interphone system."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

A Division of General Dynamics Corporation
San Diego, California

CONFIDENTIAL CHANGE PROPOSAL

SPEC NO: 2D-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,168

Rev. 17 January 1958

Dtd 27 November 1957

CHANGE NO: 132A

MODEL: (880) 22-

TITLE: Cargo Compartment Web Gates, Revision of

ORIGIN: Meeting 25 November 1957 between Convair and TWA Representatives.

REASON FOR CHANGE: Customer request, and revision to CCP No.132.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty	Oper. Wt. Empty		
+33.0 lbs	+33.0 lbs	+26,338	Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

Expired

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

EARLIEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

APPROVED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 132A

Title: Cargo Compartment Web Gates, Revision of

Origin: Meeting of 25 November between Convair and TWA Representatives.

Reason for Change: Customer request, and revision to CCP No. 132.

Description of Change:

Page 110, Paragraph 3.19.2.5.1 WEB GATES:

Revise the entire paragraph to read as follows:

"Two transverse web gates with center opening sections shall be installed, one forward and one aft of the door in both the forward and aft cargo compartment."

Enclosure: (A) One (1) copy of Convair Drawing No. 22-09914, Sheet 1, dated 3 December 1957, revised 16 January 1958.

Effect on Weight Empty:	+33.0 pounds
Effect on Balance:	+26,338 inch-pounds
Effect on Performance:	None

NOTE: The following not to appear in Specification language:

The space between the web gates will not be usable, and will result in a 53 cubic feet reduction of cargo area in the forward cargo compartment and 50 cubic feet reduction in the aft cargo compartment.

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: 20-22-00 2

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,166 Dtd 22 November 1957

CHANGE NO: 131

MODEL: (880) 22-1

TITLE: Passenger Seat, Bottom Articulation of

ORIGIN: Convair initiated.

REASON FOR CHANGE: To install a seat which is designed to provide greater passenger comfort.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

* +140.0 lbs

+140.0 lbs

+122,640 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

Cancelled

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

* BY: _____

Chief of Contract Administration
Commercial

DATE: _____

*NOTE: Since seat width weights are covered by CCP No. 104A, articulation weight increase is applicable to either 50 or 52" seats.

Title: Passenger Seat, Bottom Articulation of

Origin: Convair initiated.

Reason for Change: To install a seat which is designed to provide greater passenger comfort.

Description of Change:

Page 106, Paragraph 3.19.1.1.5 PASSENGER SEATS:

Add the following to the end of the paragraph:

"A bottom support pan for each bottom cushion, to be mounted independently of seat bottom structure, shall be provided. Cushion support pans shall be linked to seat backs in such manner that as seat backs are reclined, the seat bottoms move forward and inclination from the horizontal increases."

Page A15, APPENDIX I-C, FURNISHINGS:

From: "36 Double Passenger Seats (including fabric and belt) 1872.0 lbs"

To: "36 Double Passenger Seats (including fabric and belt) 2012.0 lbs"

Effect on Weight Empty: +140.0 pounds
Effect on Balance: +122,640 inch-pounds
Effect on Performance: None

A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

DPIC NO: SD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,164 dtd 26 November 1957

CHANGE NO: 130

MODEL: (880) 22-1

REASON: Nose Landing Gear; Steering, Braking and Actuation; Change from No. 2 to No. 1 Hydraulic System

ORIGIN: Convair initiated.

REASON FOR CHANGE: To retain steering capability in event of a failure in either of the hydraulic systems.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
-10.0 lbs	-10.0 lbs	+1,755Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

APPROVED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY:

BY:

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 130

Page 1 of 2

Title: Nose Landing Gear; Steering, Braking and Actuation, Change
from No. 2 to No. 1 Hydraulic System

Origin: Convair initiated.

Reason for Change: To retain steering capability in event of a failure
in either of the hydraulic systems.

Description of Change:

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Add the following item to the instrument list:

"One hydraulic brake pressure indicator (2")"

Page 62, Paragraph 3.15.1.1 DESCRIPTION AND COMPONENTS:

Delete the second and third sentences and substitute the following:

"System No. 1 shall actuate the spoilers, horizontal stabilizer, flaps, nose landing gear, nose gear steering and nose gear brakes. System No. 2 shall actuate the spoilers, flaps, main landing gear and the main gear brakes. An electrically driven standby pump shall be provided which will supply hydraulic power to systems No. 1 and No. 2."

Revise the fourth sentence to read as follows:

"Both systems shall normally be in continuous operation."

Page 64, Paragraph 3.15.1.11 BRAKE SYSTEM:

In second line from top of page, change "No. 2" to "No. 1."

Page All, APPENDIX I-C, HYDRAULIC EQUIPMENT:

Delete the first item:

"(1 Accumulator, Pressure, NLG Parker 1356-553604)"
200 cu. in.

Change the fourth item as follows:

From: "3 Gage, Accumulator Air"

To: "2 Gage, Accumulator Air"

Figure 3.8-1 HYD LANDING GEAR WITH ACCUMULATORS
Figure 3.8-2 WHEEL BRAKE SCHEMATIC
Figure 3.14-1 PILOT AND CO-PILOT INSTRUMENT PANEL
Figure 3.15-1 HYDRAULIC SYSTEM

Revise above figures as required to reflect these changes.

Effect on Weight Empty: -10.0 pounds
Effect on Balance: +1,755 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL --- Dtd ---
CHANGE NO: 129 MODEL: (B80) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated.**

REASON FOR CHANGE: **To clarify the intent of the Specification.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

Rejected

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 129

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 110, Paragraph 3.19.2.5 LUGGAGE AND CARGO COMPARTMENTS:

Delete the second sentence and substitute the following:

"Flooring and forward bulkhead in each cargo compartment shall be of .045 aluminum alloy or equivalent."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR: SD

Hughes Tool Company
Change No. 129

EXHIBIT "A"

(Not a part of Specification language.)

The Specification language contained in the second paragraph of 3.7.1.6.5, with the requirement that permanent cargo flooring indentation shall not be greater than .050-inch, can be complied with and remains unchanged.

Enclosure: (A) One copy of Convair sketch, Figure 1- FWD
AND AFT CARGO COMPARTMENTS (for information
only).

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL --- Dtd ---

CHANGE NO: 128.B

MODEL: (880) 22-1

TITLE: Miscellaneous Electronic Clarifications

ORIGIN: Convair initiated.

REASON FOR CHANGE: As referenced in the attached exhibit, and revised per TWA Letter 880-544 dated 6 March 1958. and TWA TWX dated 17 April 1958.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

Title: Miscellaneous Electronic Clarifications

Origin: Convair initiated.

Reason for Change: As referenced in the following paragraphs.

Description of Change:

Page 90, Paragraph 3.17.1.1 CONTROL PANELS:

Delete the following from the Description List:

"Audio Selector Control Panels (4 required) Side Console"

*"Terrain Warning Indicator Panel"

Add "Audio Selector Control Panels (4 required)

1. Pilot's Console
2. Co-pilot's Console
3. Flight Engineer's Station
4. Radio Compartment"

Reason: To clarify panel locations.

*Duplication of callout, see page 56, 3.14.

Page 91, Paragraph 3.17.1.3.1 WIRING ASSEMBLIES:

Change the following at the end of sixth sentence:

From: "Radio Junction Box"

To: "Radio Rack Shelves"

Revise entire seventh sentence to read as follows:

"The design of the wiring in the rack shelves shall be such as to facilitate removal of the wiring from the shelves."

Reason: Junction box not used in this location in accordance with agreement during mock-up review."

Page 92, Paragraph 3.17.1.3.4 SPARE TERMINALS AND SPARE WIRES:

Add the following in the third sentence after junction boxes:

"and shelves"

Page 92, Paragraph 3.17.1.3.5 SENSITIVITY CONTROL WIRING:

Revise the second sentence to read as follows:

"Separate ground return wires shall be used between the controls and the equipment connector plugs."

Reason: Junction box not used in this location in accordance with agreement during mock-up review.

Page 92, Paragraph 3.17.1.6 RADIO JUNCTION BOX:

Delete entire second sentence as follows:

"The main radio junction box shall be mounted vertically and shall be accessible and removable from the aircraft for maintenance operations."

Reason: Junction box not to be used in accordance with agreement of mock-up review.

Page 95, Paragraph 3.17.1.6.3 CABLE:

Delete entire paragraph and replace with the following:

"An individual cable shall be used between the radio rack shelf and connectors on the radio control panels. The radio racks shall be designed to permit removal of each radio unit plug and cable assembly. The audio junction box pendant cable and plug assembly shall be removable from the audio junction box by removing the terminal lugs from the terminal strips. In general these terminal lugs shall be the top ones on each terminal stud and the cable assembly shall be designed and installed to be removable as a unit without requiring unlacing of cable assemblies or rearrangement of adjacent wiring. As a design objective equipment connectors and associated cables shall be removable without requiring removal of radio rack shelves."

Page 95, Paragraph 3.17.1.6.3 CABLE (Cont)

Reason: To more accurately describe the electronic cable installation.

Page 97, Paragraph 3.17.2.1.2 CONTROLS:

Delete the second sentence and replace with the following:

"Both VHF Communication systems shall pair single channel simplex and double channel simplex operations. Provisions shall be installed to pair single channel simplex and double channel duplex on the first VHF system."

Reason: To completely define operational requirements for VHF Communication equipment.

Page 97, Paragraph 3.17.2.2 HF COMMUNICATION EQUIPMENT:

Revise the second sentence to read as follows:

"An antenna tuning unit shall be installed as close as possible to the flush antenna."

Reason: To comply with requirements as shown in APPENDIX I-C under HF Communication.

Page 98, Paragraph 3.17.2.3.1 AUDIO SELECTOR:

Revise entire paragraph to read as follows:

"Audio selector panels shall be provided for the pilot, co-pilot and flight engineer and located as approved in the mock-up. An additional audio selector panel shall be provided on or near the radio rack. Jacks for headsets and microphones shall be installed and connected to each audio selector panel. Jacks shall be located at such positions that the microphone and headphone cords will not foul the aircraft controls."

Reason: To clarify provisions for an audio selector panel for the flight engineer station.

Page 98, Paragraph 3.17.2.3.5 SERVICE INTERPHONE:

Delete entire paragraph and replace with the following:

"The interphone amplifier shall be installed in the radio rack area. Interphone operation shall be provided at the following locations:

1. Pilot
2. Co-pilot
3. Flight Engineer
4. Observer
5. Radio Rack
6. Nose Wheel Well
7. Forward Buffet
8. Aft Buffet
9. Each of Four Nacelles
10. Hydraulics Compartment
11. L.H. and R.H. Main Landing Gear Wheel Wells
12. Air Conditioning Compartment
13. Fuselage Tail Cone
14. External Power Receptacle

The service interphone wiring shall be carefully shielded, twisted and isolated as required to minimize extraneous noise in the system. The fuselage structure shall not be used as part of the interphone ground return circuit. Wiring, jacks and jackboxes shall be fully protected from heat, chafing and induced currents and as a design objective shall be fully protected from the effects of fluids."

Paragraph 3.17.2.3.5.1 JACKS AND JACKBOXES:

"Microphone, headphone and handset jacks shall be provided at locations 5, 6, 9, 10, 11, 12, 13 and 14. Jacks for the microphones and headsets shall be provided at locations 1, 2 and 3. A headset jack shall be provided for the observer and shall be wired in parallel with the pilot's headset jack. No microphone jack shall be provided for the observer. All jacks shall be permanently labeled."

Paragraph 3.17.2.3.5.2 SWITCHING:

"A switch shall be installed at the flight engineer's station to isolate locations 1 through 8 from the remaining positions. This switch shall be labeled "Maintenance Interphone". With the switch in the "ON" position all locations shall be connected while in the "OFF" position, only locations 1 through 8 shall be connected for interphone use."

Page 98, Paragraph 3.17.2.3.5.3 MICROPHONES, HEADSETS AND HANDSETS:

"Microphones, headsets and hooks shall be installed at locations 1, 2, 3 and 5. Cabin attendants' handsets shall be of the push-to-talk type. These handsets shall be used for both PA and interphone. A switch shall be installed on the handset holder, such that a switch shall be returned to "Interphone" when the handset is placed in the holder. An additional manual operation shall be required for PA operation. Means shall be installed to hold the handsets securely in the hook-switch during turbulence yet permit easy removal of the handset."

Paragraph 3.17.2.3.5.4 CALL SWITCHES:

"A 'Cockpit Call' momentary switch shall be installed on each cabin attendant's panel. When this switch is depressed, a light shall glow and a chime shall sound in the cockpit indicating a call from the cabin attendant. A 'Cabin Attendant' momentary call switch shall be installed on the co-pilot's side of the panel. When this button is depressed, a light shall glow on each cabin attendant's panel and the cabin chimes shall sound indicating a call from the cockpit. These lights shall remain on until the cabin attendant removes the handset from its holder."

Reason: For a more accurate design description of the service interphone.

Page 100, Paragraph 3.17.2.3.6 SMOKE MASK MICROPHONE:

Revise the second sentence to read as follows:

"Control switches for the pilot and co-pilot shall be installed on the outboard horn of the control wheels."

Reason: Customers operating requirements.

Page 100, Paragraph 3.17.2.3.7 PUBLIC ADDRESS SYSTEM:

Delete entire paragraph and replace with the following:

"PUBLIC ADDRESS SYSTEM: A public address system shall be installed. The loud speaker arrangement shall make flight announcements audible and clearly understandable at any location in the passenger seat areas for normal flight and ground conditions when used by either crew or cabin service attendants. The system shall be suitable for reproduction of music and shall include provisions for an airborne tape reproducer located in the radio rack. A handset shall be installed at each cabin attendant's station. A control panel at each

Page 100, Paragraph 3.17.2.3.7 PUBLIC ADDRESS SYSTEM (Cont)

cabin attendant's station shall contain a volume control and volume meter. The PA system shall be operative when the emergency dc electrical bus is energized. A handset shall be installed convenient to the pilot. Means shall be provided for monitoring the PA sidetone through the receiver of the individual handset. A volume control and volume meter shall be installed convenient to the pilot."

Paragraph 3.17.2.3.7.1 SPEAKERS:

"A speaker unit shall be provided on each side of the cabin for every two rows of seats. The output of the public address amplifier shall be distributed to the speakers through a 70.7 volt (RMS) system, or similar means, with tapped transformer or transformers to permit allocation of different power levels to different areas to compensate for variations in ambient noise level. All speaker units shall have maximum practicable acoustical baffling and shall have cone diameters of at least six inches or equivalent thereto. The speaker mounting shall be designed to facilitate replacement of the speaker and circuit connections without removal of upholstery or light fixtures. Precautions shall be taken to avoid speaker location that will cause acoustical feed back between the cabin attendants' microphones and speakers. If this is not entirely obtainable, a muting or attenuating arrangement shall be used to preclude the acoustical feed back. Terminal strips at speaker locations shall be permanently coded in order to maintain correct speaker phasing. The speaker unit connections shall be similarly coded. The amplifier shall be wired for 115-volt, 400 cps and adequately protected to facilitate the use of the self-contained test feature that permits maintenance personnel to check amplifier gain."

Reason: For a more convenient interphone operation.

Page 101, Paragraph 3.17.3.1.1 ANTENNAS:

Revise the second sentence to read as follows:

"Two faired type antennas shall be located on top of the aircraft at approximately the electrical center of the fuselage."

Reason: Antennas relocated for improved performance.

Page 101, Paragraph 3.17.3.2 MARKER BEACON RECEIVER:

Add the following to end of paragraph:

"The hi-lo sensitivity switch shall be located on the pilot's instrument panel directly below the marker beacon lights."

Reason: To define location of hi-lo sensitivity switch.

Page 102, Paragraph 3.17.3.5.2 ANTENNAS:

Revise entire paragraph to read as follows:

"Provisions shall be made on the fuselage for two antennas."

Reason: To cover antenna relocation.

Page 104, Paragraph 3.17.8 RADIO FREQUENCY PLACARD HOLDER:

Delete the entire paragraph.

Reason: To remove duplicate callout, see paragraph 3.17.1.9.

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,158 Dtd _____
CHANGE NO: 127 MODEL: (880) 22-1

TITLE: **Tinted Interior Cabin Windows, Installation of**

ORIGIN: **Reference: TWA TWX dated 15 October 1957**

REASON FOR CHANGE: **Customer requested.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____
Non-Recurring _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 127

Title: Tinted Interior Cabin Windows, Installation of

Origin: Reference: TWA TWX dated 15 October 1957

Reason for Change: Customer requested.

Description of Change:

Page 28, Paragraph 3.7.1.4 WINDOWS:

Add the following to the end of the paragraph:

"All interior cabin windows shall be tinted with a "cast-in" grey color, equivalent to ROHM-HAAS Plexiglass Grey 2094."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____
Rev. 12 December 1957
MCL 10,156A Dtd 18 November 1957

CUSTOMER: Hughes Tool Company

CHANGE NO: 126

MODEL: (880) 22-1

TITLE: Refueling Illumination Lights, Installation of

ORIGIN: Delta required, Reference: Delta comments on Mock-Up reviews of 27 February and 22 August 1957; and Convair proposed for IWA.

REASON FOR CHANGE: To provide illumination at the refueling points for use during night refueling operations.

AFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+3.3 lbs

+3.3 lbs

+2937 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

Rejected

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 126

Title: Refueling Illumination Lights, Installation of

Origin: Delta requested, Reference: Delta comments on Mock-Up reviews of 27 February and 22 August 1957; and Convair proposed for TWA.

Reason for Change: To provide illumination at the refueling points for use during night refueling operations.

Description of Change:

Page 74, add the following new paragraphs to the page:

- "3.16.8.1.7 REFUELING ILLUMINATION LIGHTS: A white light, not to exceed 15 cp, shall be installed, one each in the inboard pylon wing fairings to provide illumination at the wing lower surface refueling points.
- 3.16.8.1.7.1 CONTROL: Control of the refueling illumination lights shall be through the existing micro-switches, located one each in the refueling panels on the left and right hand inboard pylons, for automatic energizing of the refueling illumination lights when the refueling panel doors are opened."

Effect on Weight Empty: +3.3 pounds
Effect on Balance: +2937 inch-pounds
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 2

DATE: _____

CUSTOMER: Hughes Tool Company

MCL _____ Dtd _____

CHANGE NO: 125

MODEL: (880) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Convair initiated**

REASON FOR CHANGE: **To incorporate Convair Standard Wiring
Specification No. 0-09001 into the Detail
Specification as a replacement for Wiring
Specification No. ZM-256**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Convair: 8D

Hughes Tool Company
Change No. 125

Title: Specification Administrative Change

Origin: Convair initiated

Reason for Change: To incorporate Convair Standard Wiring Specification No. 0-09001 into the Detail Specification as a replacement for Wiring Specification No. ZM-256.

Description of Change:

Page 8, Paragraph 2.1 APPLICABLE SPECIFICATIONS:

Change third item in Specification List as follows:

From: "Convair Electrical and Electronic Installation Specification ZM-256".

To: "Convair Installation of Aircraft Electrical and Electronics Wiring Specification No. 0-09001".

Delete "ZM-256" where appearing in the following Specification sections, and substitute "0-09001"

Page 66, Paragraph 3.16.4, in third line.

Page 67, Paragraph 3.16.5.1, in fourth line.

Page 68, Paragraph 3.16.5.6, in third line.

Page 70, Paragraph 3.16.6, in fourth line.

Page 91, Paragraph 3.17.1.3, in second line.

Page 92, Paragraph 3.17.1.3.2, in third line.

Page 93, Paragraph 3.17.1.3.8, in second line.

Page 94, Paragraph 3.17.1.6, in last line.

Effect on Weight Empty:	0
Effect on Balance:	0
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

NCL --- Dtd ---

CHANGE NO: 124

MODEL: (880) 22-1

TITLE: Specification Administrative Change

ORIGIN: Convair initiated.

REASON FOR CHANGE: To clarify the intent of the Specification.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 124

Title: Specification Administrative Change

Origin: Convair initiated.

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 95, Paragraph 3.17.1.7 CIRCUIT PROTECTION:

Revise third sentence as follows:

From: "All circuit breakers shall have switch type handles."

To: "All circuit breaker switches shall be of the push-pull type."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL --- Dtd ---
CHANGE NO: 123 MODEL: (880) 22-1

TITLE: Specification Administrative Change

ORIGIN: Reference: TWA Letter No. 880-119A-8, dated 10 April 1957

REASON FOR CHANGE: To clarify the intent of the Specification.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE: _____ AIRPLANES AFFECTED: _____

SPECIAL PROVISIONS:	EFFECT ON PRICE PER AIRPLANE:
	Recurring: _____
	Non-Recurring: _____
	Total: _____

ACCEPTED: _____ CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____ BY: _____
DATE: _____ Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 123

Title: Specification Administrative Change

Origin: Reference: IWA Letter No. 880-119A-8, dated 10 April 1957

Reason for Change: To clarify the intent of the Specification.

Description of Change:

Page 89, Paragraph 3.17.1 EQUIPMENT:

Add the following item under "Provisions for the following systems shall be made":

"Tape Reproducing Unit (1/2 ATR)"

Delete the above item under "Space provisions for the following systems shall be made".

Page A6, APPENDIX I-C, ELECTRONIC EQUIPMENT:

Under "P.A. SYSTEM", delete the second item "(1 Tape Reproducer (1/2 ATR) ATRINC SPEC.)"

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,157 Dtd 13 November 1957
CHANGE NO: 122 MODEL: (880) 22- 1

TITLE: Buffets, Changes to

ORIGIN: Ref.: TWA Letter No. 880-364, dated 25 October, 1957

REASON FOR CHANGE: Customer request.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *	
Guar. Wt. Empty -4.0 lbs	Oper. Wt. Empty +47.0 lbs	-4,007 +24,483	Inch-Lb. Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

Title: Buffets, Change to

Origin: Ref.: FWA Letter No. 880-364, dated 25 October 1957

Reason for Change: Customer request.

Description of Change:

Page 20, Paragraph 3.4.4 LOADS:

Revise the following load figures:

From: Downward 4.5g
Forward 9.0g
Aft 1.5g (except buffet containers which shall be 9.0g)

To: * Downward 4.5g
* Forward 9.0g
* Aft 1.5g
* (Except buffet structure and inserts shall be 12.0g forward and aft, and 6.0g downward.)

Revise second sentence of second paragraph to read as follows:

"Aft galley support structure shall withstand 12g forward ultimate loads."

Page 78, Paragraph 3.16.10.1 BUFFET:

Revise entire paragraph to read as follows:

"Provisions shall be made for maximum buffet equipment electrical load of 10 kw for each forward buffet and 9 kw for the aft buffet operation during normal flight conditions."

Page 108, Paragraph 3.19.2.1.2 BUFFET AND EQUIPMENT:

Delete the double asterisk from the following items in the Equipment List:

- ** Tray carrier
- ** Automatic coffee maker
- ** 3-drawer refrigerator cabinet
- ** Glass carriers and miniature liquor cabinet

Delete "*** No Door"

Page 108, Paragraph 3.19.2.1.2 BUFFET AND EQUIPMENT: (Cont)

Delete the following from the Buffet Equipment List:

	<u>No. 1</u>	<u>No. 2</u>	<u>No. 3</u>
Wet and Dry Refuse Container (with perforated removable divider)	1	1	1

Add:

*** Wet and Dry Refuse Container (with perforated removable divider)	1	1	1
--	---	---	---

*** Leakproof Miscellaneous Stowage Containers	1	1	0
--	---	---	---

*** Useful Load

Delete the present figures and replace with the following revised figures:

Figure 3.19-5,	Rev. C, No. 1 Buffet, Lkg fwd @ Sta. 328
Figure 3.19-5A,	Rev. B, No. 1 Buffet, View looking outb'd
Figure 3.19-6	Rev. C, No. 2 Buffet, View looking aft
Figure 3.19-6A,	Rev. B, No. 2 Buffet, View looking outb'd
Figure 3.19-7,	Rev. C, No. 3 Buffet, View looking aft @ Sta.1296.12
Figure 3.19-7A,	Rev. B, No. 3 Buffet, View looking outb'd
Figure 3.19-8,	Rev. C, Plan view - R.H. side

Page A15, APPENDIX I-C, FURNISHINGS:

Change the seventeenth item in the equipment list as follows:

<u>From:</u> "3 buffet sections (excluding Buyer furnished items noted in Appendix I-B)"	730 lbs
--	---------

<u>To:</u> "3 buffet sections (excluding Buyer furnished items noted in Appendix I-B)"	810 lbs
--	---------

Page A22, APPENDIX I-D, COMPONENT REMOVAL AND REPLACEMENT TIME:

Add the following to bottom of the list:

Buffet (each)	2	3	1.5
---------------	---	---	-----

CONVAIR: SD

Hughes Tool Company
Change No. 122

Page 3 of 3

Enclosure: (A) Four (4) copies of revised buffet figures as specified herein.

Exhibit (A) attached. Not to be part of Specification language.

Increase

Weight Empty:	-4.0 pounds
Useful Load:	+51.0 pounds
Oper. Weight Empty:	+47.0 pounds

Effect on Balance:

Weight Empty:	-4007 inch-pounds
Useful Load:	+28490 inch-pounds
Oper. Weight Empty:	+24483 inch-pounds

Effect on Performance: None

EXHIBIT "A"

Not To Be Part Of Specification Language.

CCP No. 122 describes changes to the TWA buffets over and above those covered in CCP No. 23A. These changes fulfill the requirements set forth in TWA Specification "Galley Requirements, 880 Airplane" of 5-13-57, revised 10-25-57, and TWA Letter 880-364 dated 25 October 1957, except as follows:

(Paragraph numbers correspond to those of the above specification.)

2. Complete removal of any galley section from the airplane or reinstallation therein by two men in one hour elapsed time shall be a design objective. However, this would appear to be impracticable considering the number of airplane attachments, disconnecting upper and lower halves of galley at counter level, water and electrical connections, and sealing of galley at the floor.
3. The 12.0g forward and aft ultimate load requirement is interpreted to apply to the buffet sections and the attachments only and not to the airplane structure. The factors are considered to apply singly and not in combination.
4. The reproducible micromasters, including the buffets, are the subject of MCL 10139 currently in negotiation.
6. Significant changes at a later date effecting cost and weight will be the subject of further negotiations.
9. Convair assumes that the mock-up stage is complete. Convair costs do not include further working models.
11. There are no lights on the 880 galleys but lighting is provided in buffet overhead area.
- 16a. The two-gallon thermos jug on the No. 1 buffet is Customer furnished.
- 16c. Curtains are deleted by the cover letter (TWA File 880-364 of 10-25-57).
- 16e. Tray carriers are Customer furnished.
- 16f. Roll carriers are Customer furnished.
- 16g. Oven carriers are Customer furnished. The First Article of the oven may be loaned to TWA for checking, to be returned for subsequent installation in a production unit.

EXHIBIT "A"

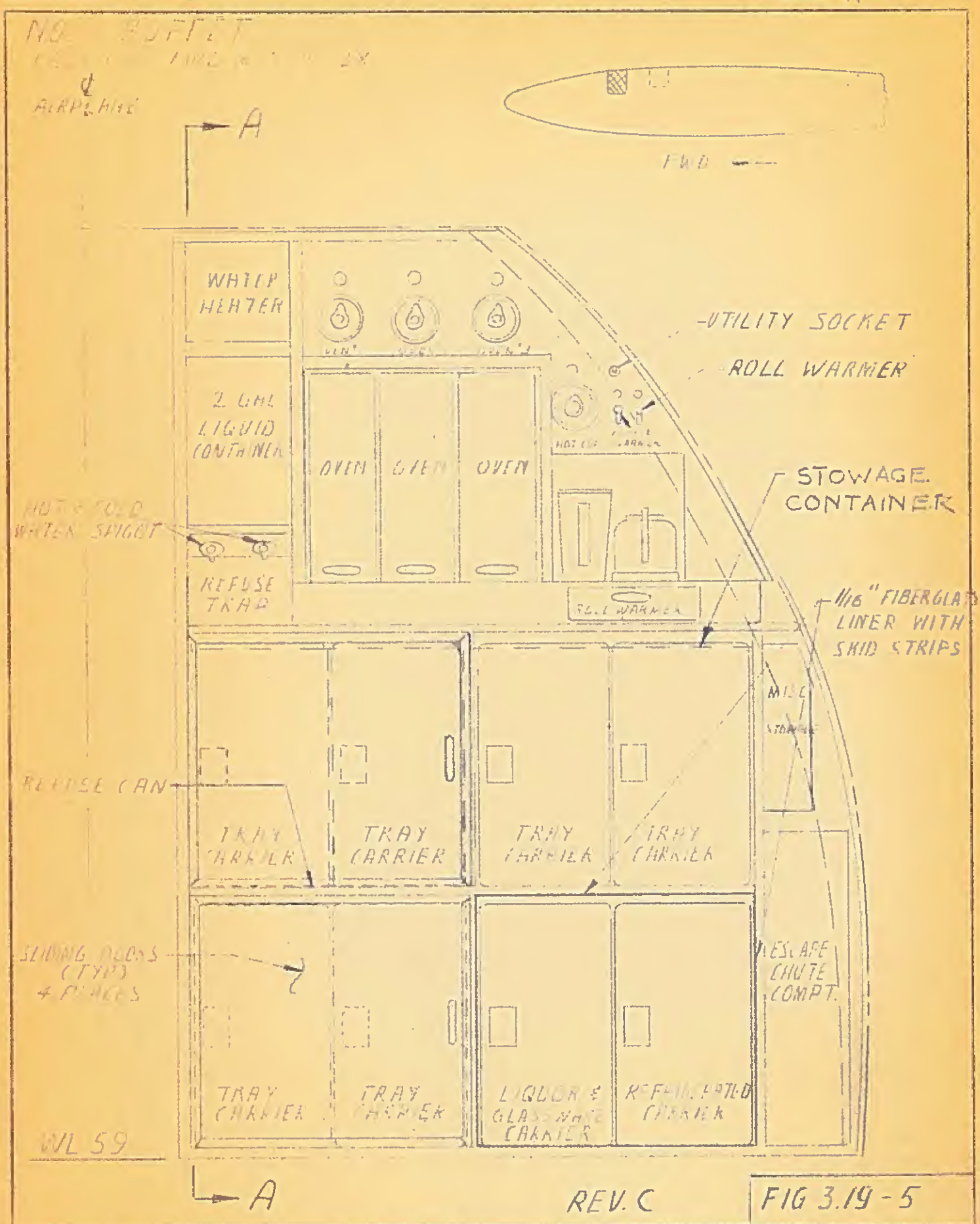
- 16h. The refrigerated cabinets are Customer furnished. The 1/16 inch fibreglas liner will not be installed around the refrigerated cabinet and the liquor and glassware cabinet in order to minimize weight.
- 16j. Liquor and glassware cabinets are Customer furnished.
- 16n. The storage door and compartment are understood to be in sections 1 and 3 only as per TWA sketch DA-3.
- 16o. Leakproof stowage containers are incorporated, however the weight is considered a part of Useful Load.

ANALYSIS
 PREPARED BY KOSTER
 CHECKED BY [illegible]
 REVISED BY [illegible]

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
 SAN DIEGO

PAGE
 REPORT NO.
 MODEL
 DATE 11-

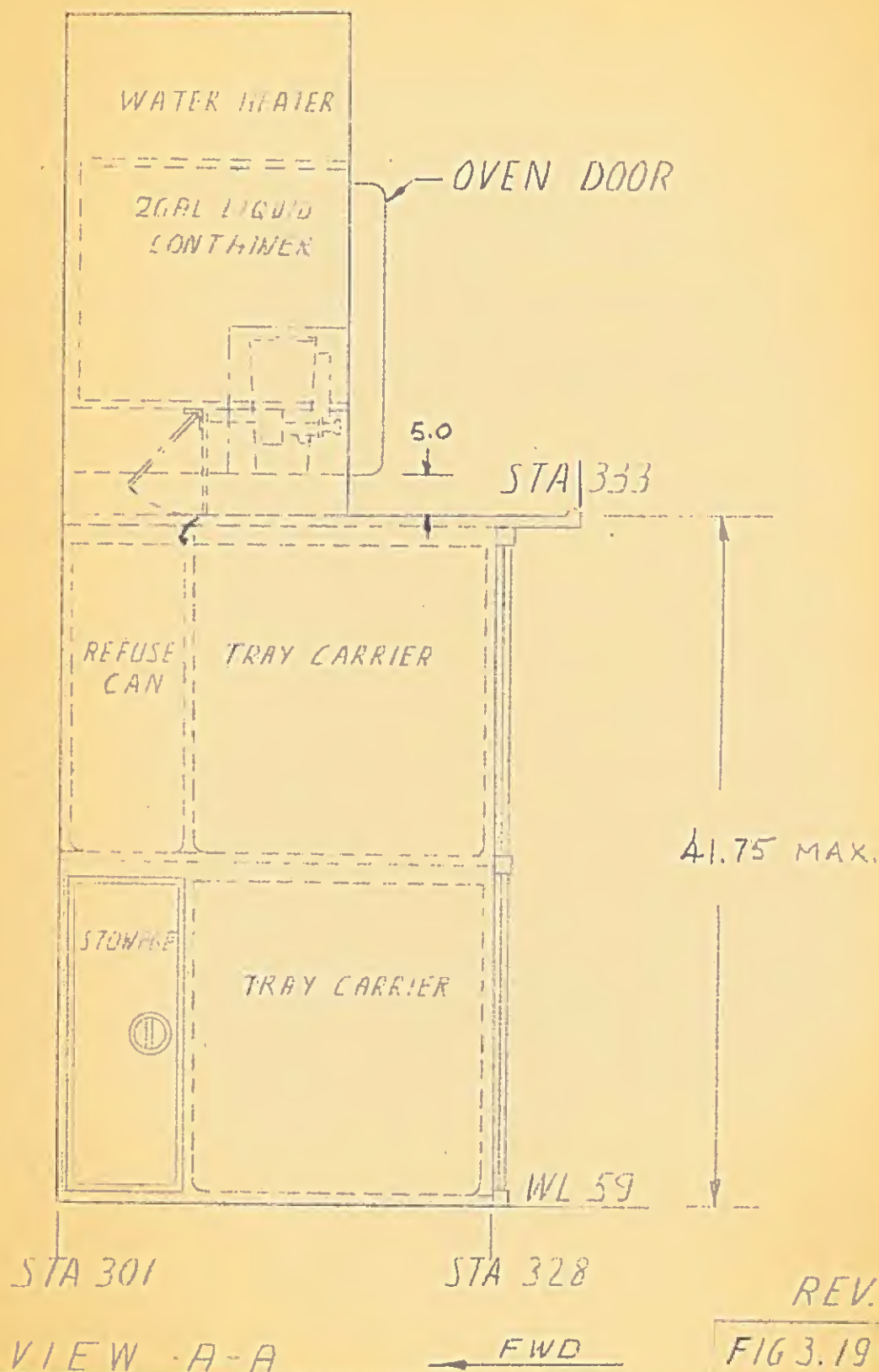


ANALYSIS
PREPARED BY KOSTER
CHECKED BY E.B.
REVISED BY

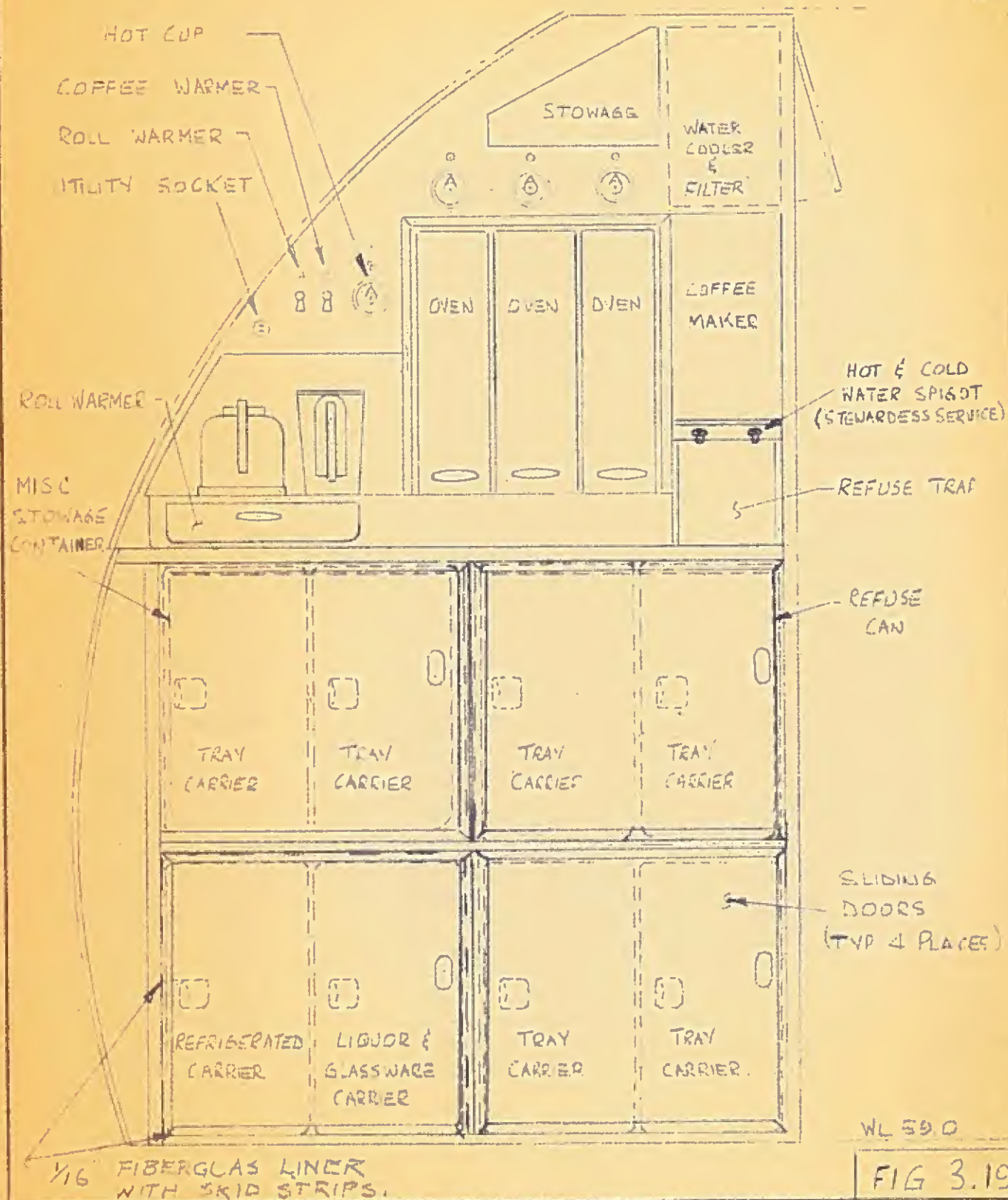
CONVAIR
A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO

PAGE
REPORT NO.
MODEL 22-1
DATE 11-11-57

NO. 1 BUFFET
VIEW LOOKING OUTBD



V^o 2 BUFFET
VIEW LOOKING AFT



ANALYSIS

PREPARED BY

KIRK

CHECKED BY

E.B.

REVISED BY

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO

PAGE

REPORT NO.

MODEL

22-1

DATE

11-11-57

T.W.A.

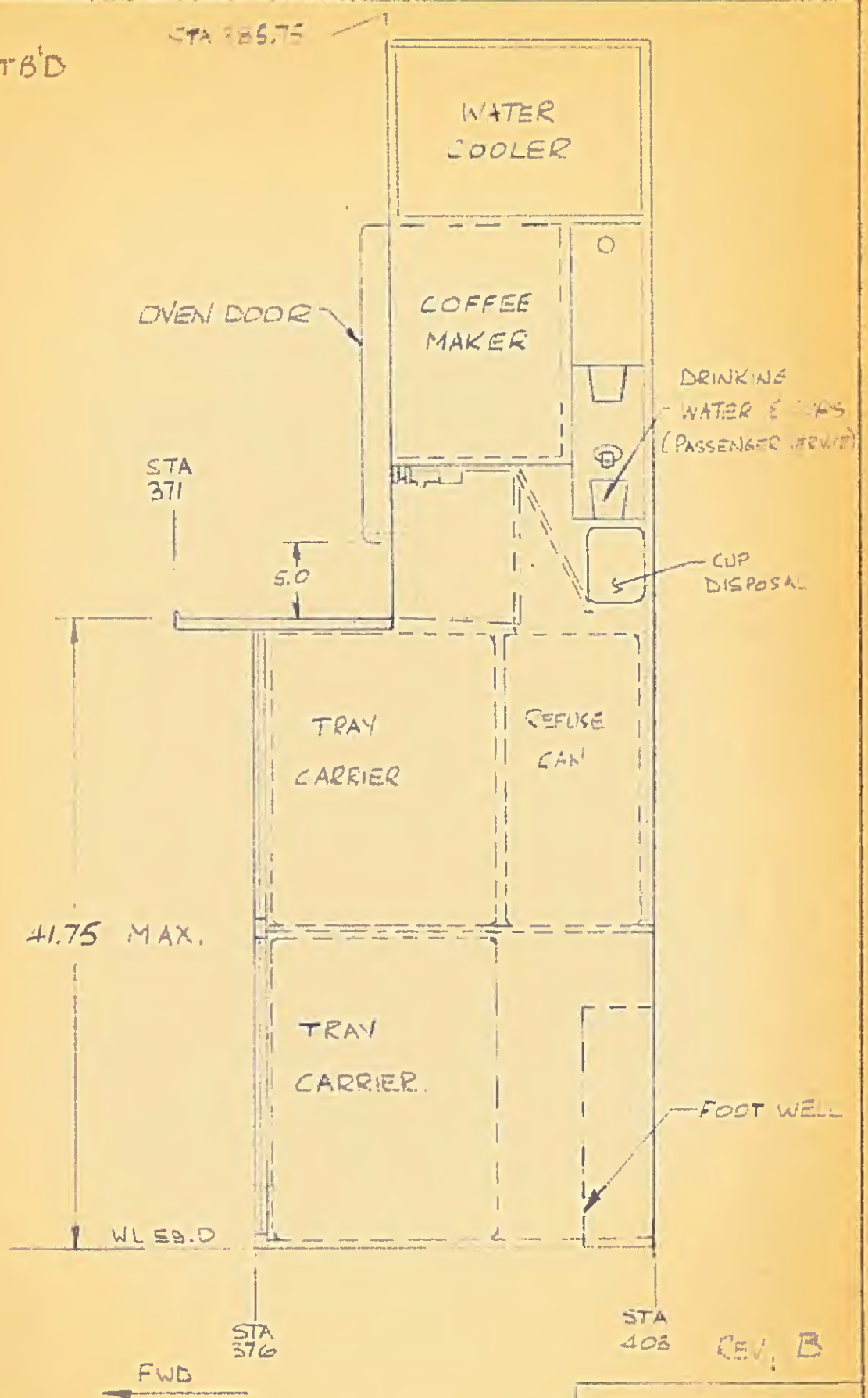
Nº 2 BUFFET
VIEW LOOKING OUTB'D

FIG. 3.13. 6A.

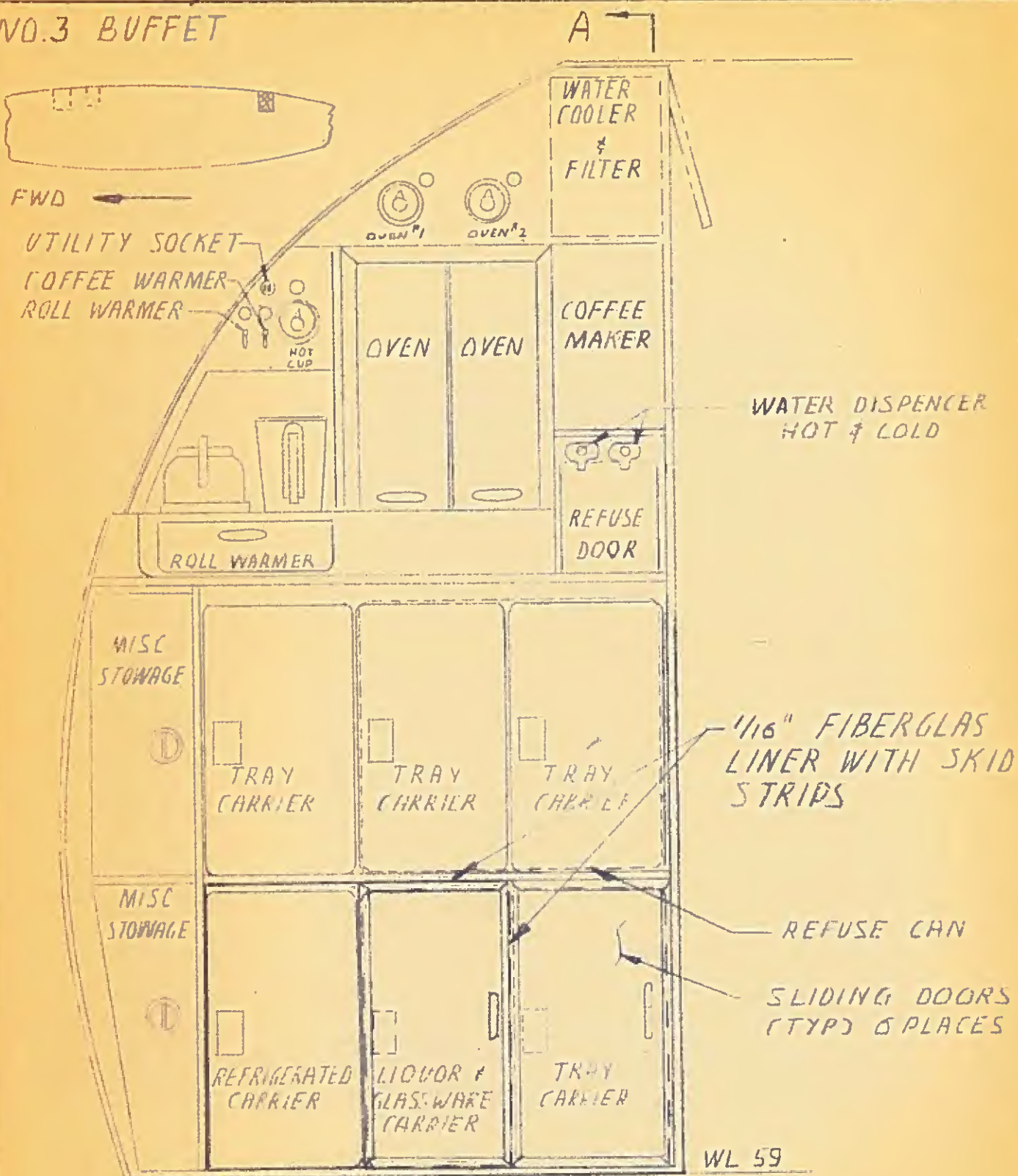
ANALYSIS
 PREPARED BY KOSTER
 CHECKED BY B-3
 REVISED BY

CONVAIR

A DIVISION OF GENERAL DYNAMICS CORPORATION
 SAN DIEGO

TWA
 PAGE
 REPORT NO.
 MODEL 22-1
 DATE 11-11-57

NO.3 BUFFET



VIEW LOOKING AFT AT STA 1296.12

REV. C

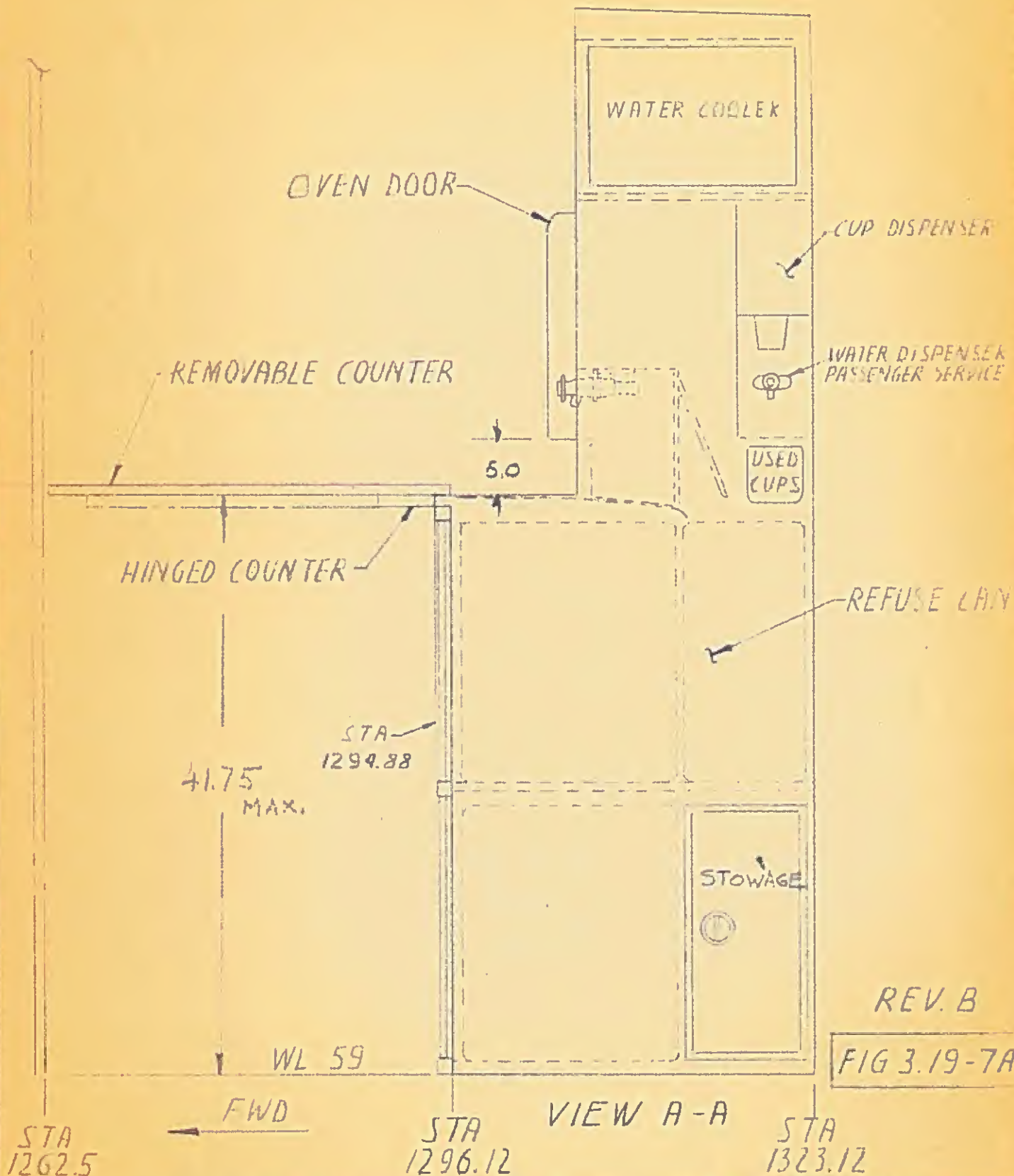
FIG 319-7

ANALYSIS
PREPARED BY KOSTER
CHECKED BY B. B. Q.
REVISED BY

CONVAIR
A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO

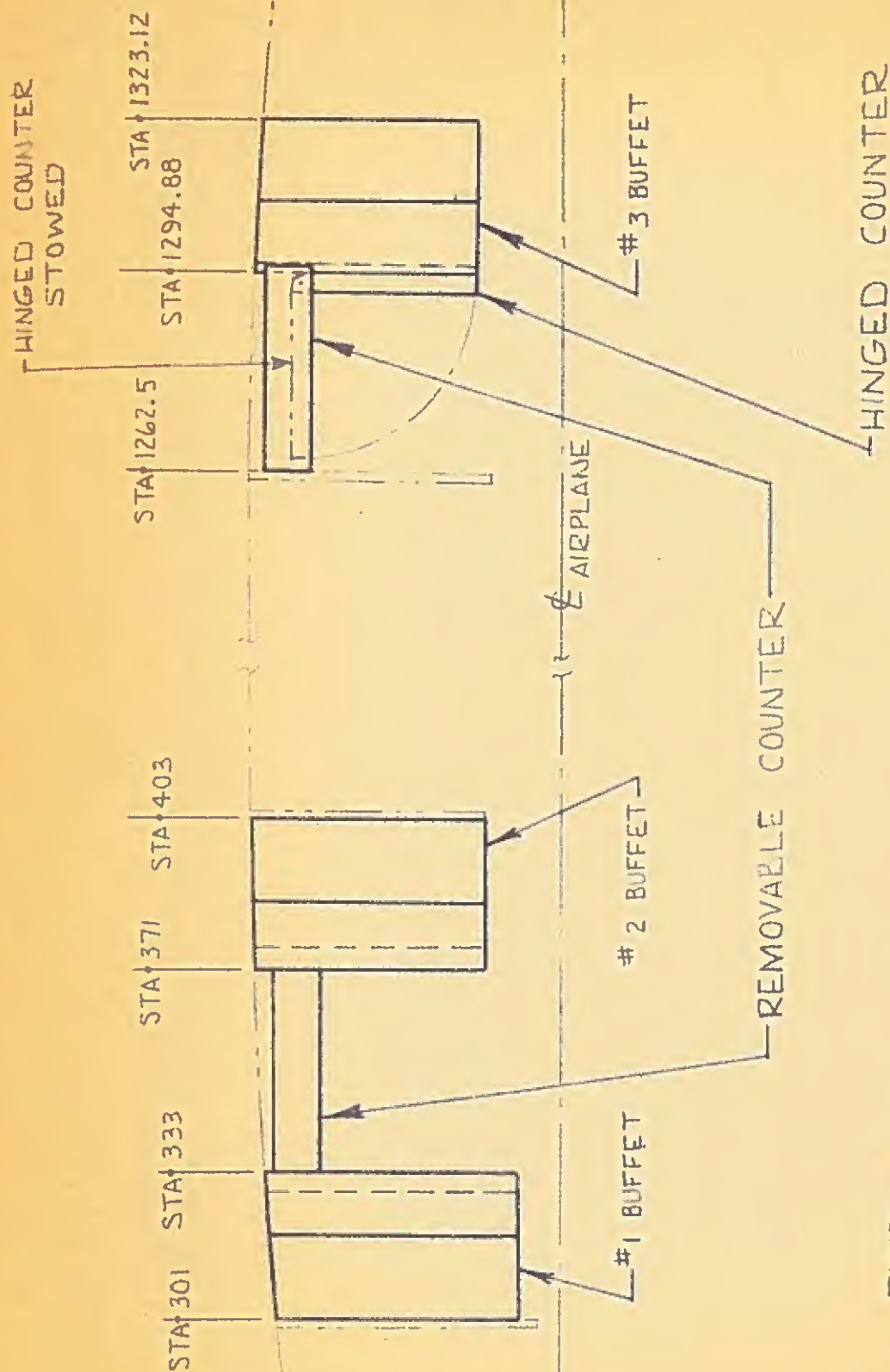
TWH
PAGE
REPORT NO.
MODEL 221
DATE 11/11-57

NO. 3 BUFFET
VIEW LOOKING OUTBOARD



REV. B

FIG 3.19-7A



PLAN VIEW - R. H. SIDE

REV. C

FIG. 3.19-8

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: 3D-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL -- Dtd --
CHANGE NO: 121 MODEL: (880) 22-1

TITLE: **Flush Type Mooring Attachments, Deletion of**

ORIGIN: **Reference: FWA Letter No. 880-86, dated 5 March 1957**

REASON FOR CHANGE: **Customer requested.**

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
-4.0 lbs	-4.0 lbs	-4004 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 121

Title: Flush Type Mooring Attachments, Deletion of

Origin: Reference: TWA Letter No. 880-86, dated 5 March 1957

Reason for Change: Customer requested.

Description of Change:

Page 127, Paragraph 3.22.3 MOORING PROVISIONS:

Delete the first sentence and substitute the following:

"Special mooring attachments shall not be provided."

Effect on Weight Empty:	-4.0 pounds
Effect on Balance:	-4004 inch-pounds
Effect on Performance:	None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

ECL 10,163 Dtd 7 November 1957

CHANGE NO: 120A

MODEL: (880) 22-

TITLE: Identification of Outer Passenger Windows by Zones

ORIGIN: Contractor Initiated and Revision per S.O. 880-1-94

REASON FOR CHANGE: To reduce weight, and revision to CCP No. 120.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Grav. Wt. Empty

Oper. Wt. Empty

-52.0 lbs

-52.0 lbs

-37,232 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LAST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

Title: Identification of Outer Passenger Windows by Zones

Origin: Customer Initiated and revised per S.O. 880-1-94

Reason for Change: To reduce weight, and Revision to CCP No. 120

Description of Change:

Page 28, Paragraph 3.7.1.4 WINDOWS:

Delete entire paragraph and replace with the following:

"Passenger compartment windows, rectangular in shape, approximately 9 x 12-1/2 inches inside the retainer, and providing "double safety", shall be installed. Nicks and scratches must not affect structural integrity. In this regard Convair shall test the windows with various degrees of nicks and scratches and determine and justify the removal limits. Molded rubber seals shall be used for each window. Defogging provisions shall not use dessicants. Inner or outer windows shall be replaceable in 30 minutes and as many common parts as practicable shall be used. Provisions shall be installed which will prevent installation of improper window in any position throughout the aircraft.

Page 28, Paragraph 3.7.1.4.1 *OUTER WINDOWS: The outer cabin windows shall be divided into not more than two zones, fore and aft. Outer windows shall be interchangeable in any window position within the same zone."

Page 28, Paragraph 3.7.1.4.2 INNER WINDOWS: The inner cabin windows shall be divided into not more than three zones fore and aft. Inner windows shall be interchangeable in any window position within the same zone."

* NOTE: Convair reserves the right to vary the number of windows within their respective zones if acoustics tests reveal adequate sound levels are not being maintained. The weight will be adjusted accordingly.

The following not to be a part of Specification language:

"Inner window interchange was approved on CCP No. 2, Revised."

Effect on Weight Empty: -52.0 pounds
Effect on Balance: -37,232 inch-pounds
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

CPHC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

PCL 10,159 Dtd 4 November 1957

CHANGE NO: 119A

CODE: (880) 22-1

TITLE: Cabin Wainscot Trim, Change of

ORIGIN: References: TWA TWX dated 10 October 1957 and Letter No. 8808-29,
dated 17 October 1957, and meeting in Kansas City on
REASON FOR CHANGE: 20-22 November 1957 between Convair and TWA Repre-
sentatives.

Customer requested, and revision to CCP No. 119.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+ 22.0 lbs

+ 22.0 lbs

+18,326 Inch lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____
Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 119A

Title: Cabin Wainscot Trim, Change of

Origin: References: TWA TWX dated 10 October 1957 and Letter No. 8808-29, dated 17 October 1957, and meeting in Kansas City on 20-22 November 1957 between Convaair and TWA Representatives.

Reason for Change: Customer requested, and revision to CCP No. 119.

Description of Change:

Page A15, APPENDIX I-C

Change fifth item under "Interior Trim" as follows:

From: Cabin Wainscot Trim 12.0 oz

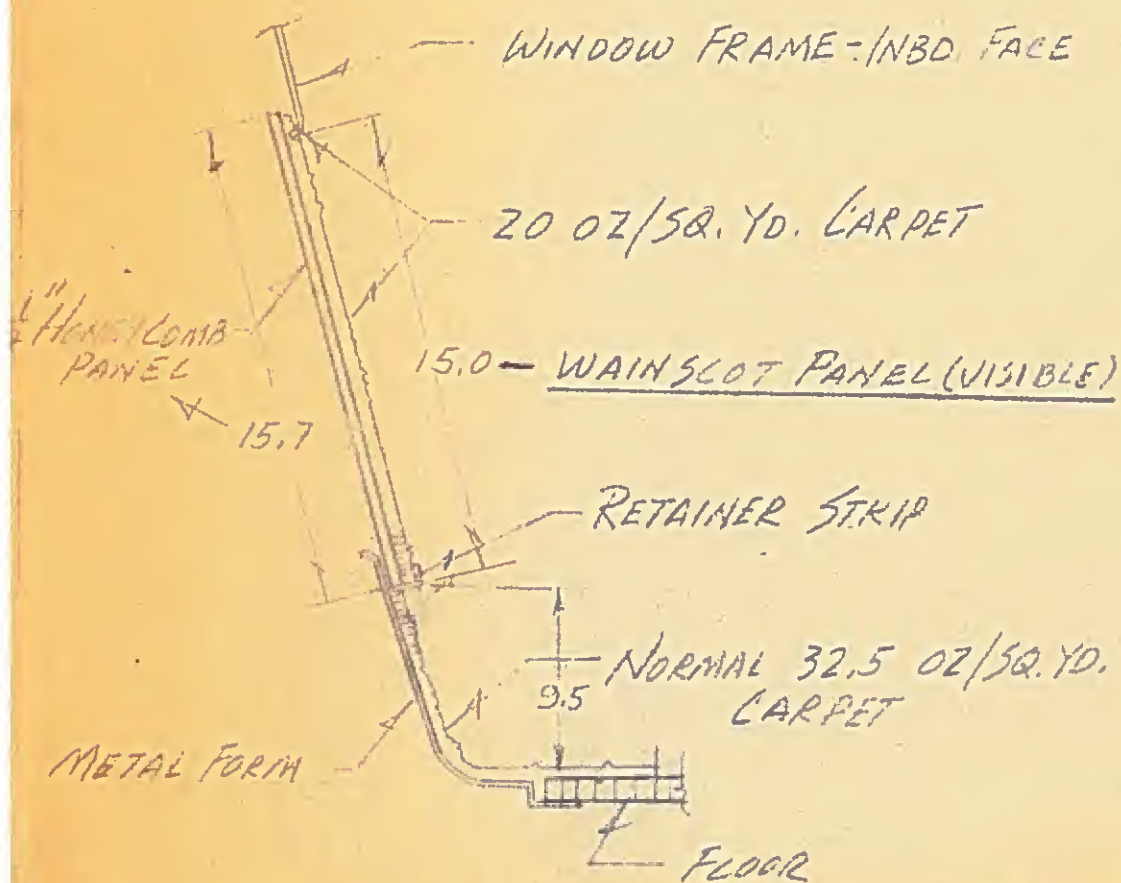
To: Cabin Wainscot Trim 20.0 oz

Effect on Weight Empty: +22.0 pounds
Effect on Balance: +18,326 inch-pounds
Effect on Performance: None

EXTENSION OF CARPET MAT'L TO LOWER WINDOW EDGE

TWA

1. REMOVE VINYL COATED FABRIC ON WAINSCOT PANELS IN CABIN & LOUNGE FROM STA. 404.0 TO STA. 1261.0 R.H. & L.H. SIDES.
2. REPLACE WITH UNBACKED OR UNCOATED BACK, CARPET FABRIC.
3. ADD CAP STRIP ALONG LOWER EDGE OF CARPET MAT'L. TO PROTECT & RETAIN CARPET



C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPMC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL 10,167 Dtd 5 December 1957

CHANGE NO: 118A

MODEL: (880) 22-1

TITLE: **Applicable Federal Regulations**

ORIGIN: **Contractor initiated.**

REASON FOR CHANGE: **To incorporate all applicable Federal Regulations, which relate to CAA certification of the airplane, into the Detail Specification; and revision to CCP No. 118.**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+2.5 lbs

+2.5 lbs

+1,438 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR: SD

Hughes Tool Company
Change No. 118A

Title: Applicable Federal Regulations

Origin: Contractor initiated.

Reason for Change: To incorporate all applicable Federal Regulations, which relate to CAA certification of the airplane, into the Detail Specification; and revision to CCP No. 118.

Description of Change:

Page 8, Paragraph 2.1 APPLICABLE SPECIFICATIONS:

Delete paragraph title and the first eight lines of the paragraph, and substitute the following:

"2.1 APPLICABLE FEDERAL REGULATIONS: Civil Air Regulation Part 4b as amended to 31 December 1953 and amendments:

4b-1 adopted 13 April 1954
4b-2 adopted 20 July 1955
4b-3 adopted 7 February 1956
4b-4 adopted 25 February 1957
4b-5 adopted 5 March 1957
4b-6 adopted 8 July 1957
4b-7 adopted 12 September 1957; and

Special Civil Air Regulation SR-422 adopted 23 July 1957 to the extent that Part 4B, said amendments and Special Civil Air Regulation apply to turbo-jet powered transport land type airplanes, and special rulings as necessary to obtain an airworthiness type certificate in the transport category. Civil Air Board Regulations, amendments and special regulations and Civil Aeronautics Administration rules, policies and interpretations which become effective after 27 August 1957 shall be subject to the change order procedures in the Purchase Agreement."

Add the following new paragraph to Page 74:

"3.16.8.1.2.2 LANDING LIGHT INDICATOR LIGHTS: An indicator light for each landing light shall be provided in the pilots' compartment. Indicator lights shall be illuminated when the landing lights are not fully retracted."

Effect on Weight Empty: +2.5 pounds
Effect on Balance: +1,438 inch-pounds
Effect on Performance: None

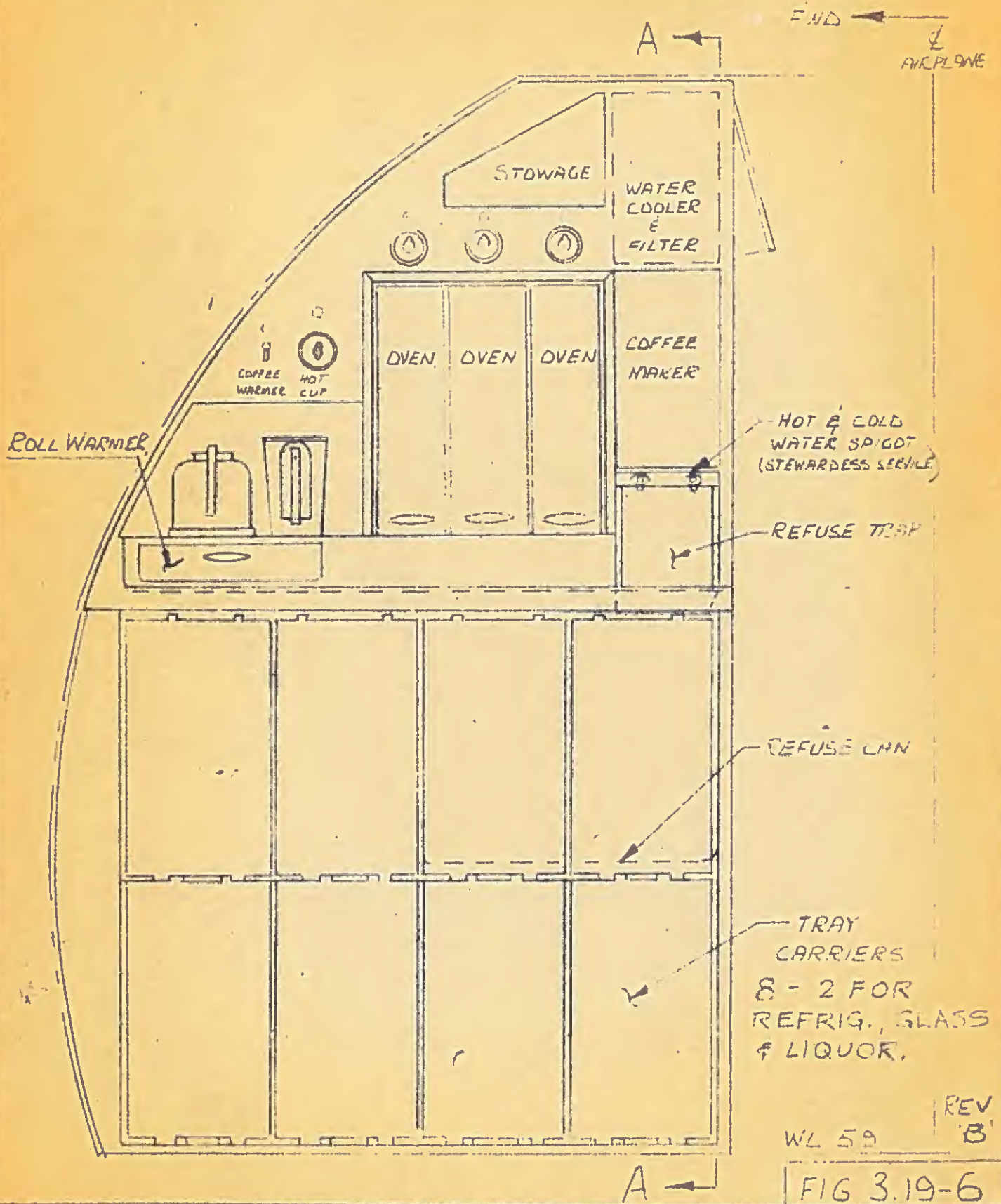
ANALYSIS
PREPARED BY
CHECKED BY E.
REVISED BY L. SELBY

CONVAIR
A DIVISION OF GENERAL DYNAMICS CORPORATION
SAN DIEGO

PAGE 118 F1
REPORT NO. ZD-22-002
MODEL TWA 880-22-1
DATE 6-1-56

Rev. 12-10-57

N^o 2 BUFFET
VIEW LOOKING AFT

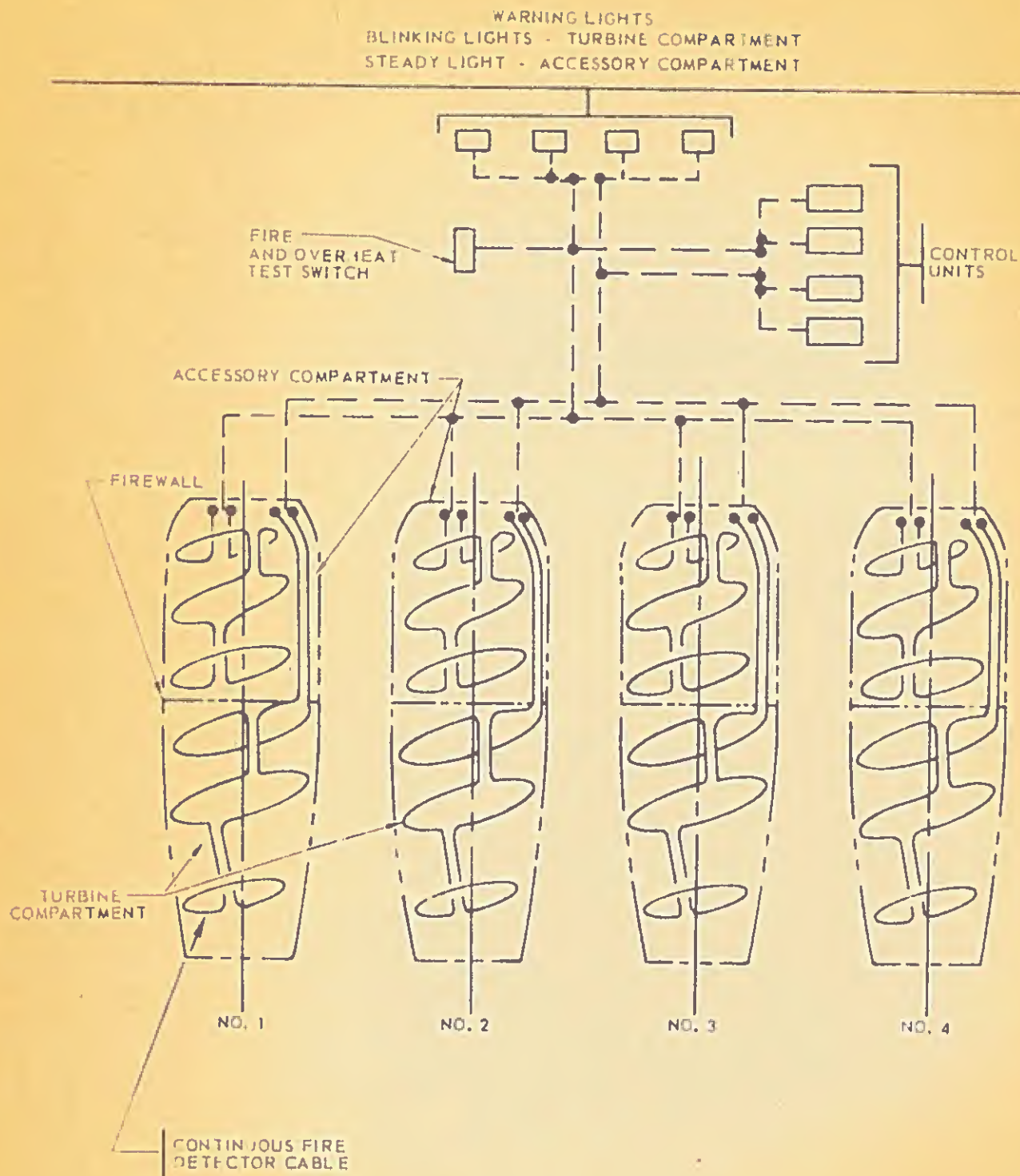


WL 59

REV
'B'

FIG 3.19-6

FILE SPEC



FIRE DETECTION SYSTEM - ENGINE NACELLES

Figure 3.19-10

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL 10,138 Dtd Rev. 10-14-57
CHANGE NO: 117 MODEL: (880) 22-1

TITLE: Compass Comparator, Installation of

ORIGIN: Reference: TWA Letter No. 880-299, dated 6 September 1957

REASON FOR CHANGE: Customer requested.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

+3.0 lbs

+3.0 lbs

+1,220 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: * None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 117

Title: Compass Comparator, Installation of

Origin: Reference: TWA Letter No. 880-299, dated 6 September 1957

Reason for Change: Customer requested.

Description of Change:

Page 56, Paragraph 3.14.1.1 PILOT'S INSTRUMENTS:

Change bottom item as follows:

From: "One compass differential error indicator"

To: "One compass comparator indicator light"

Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Change bottom item as follows:

From: "One compass differential error indicator"

To: "One compass comparator indicator light"

Page A8, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT

Change 18th item in Description List as follows:

From: 2 Compass Differential Error Indicator

To: 1 Compass Comparator Eclipse-Pioneer

Figure 3.14-1 PILOT'S AND COPILOT'S INSTRUMENT PANEL

Revise figure as required to reflect this change.

Effect on Weight Empty: +3.0 pounds
Effect on Balance: +1,220 inch-pounds
Effect on Performance: None

C O N V A I R
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002

DATE: _____

CUSTOMER: Hughes Tool Company

MCL _____ Dtd _____

CHANGE NO: 116

MODEL: (880) 22-1

TITLE: VHF Communication Antenna, Relocation of

ORIGIN: Contractor Initiated

REASON FOR CHANGE: To provide better performance and a more favorable location.

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *
None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 116

Title: VHF Communication Antenna, Relocation of

Origin: Contractor Initiated

Reason for Change: To provide better performance and a more favorable location.

Description of Change:

Page 96, Paragraph 3.17.2.1 ANTENNA:

Revise first sentence to read as follows:

"One faired-in type antenna shall be installed on the top center-line of the fuselage."

Page A7, APPENDIX I-C, ELECTRONIC EQUIPMENT

Change under VHF Communication Antenna:

From: 2 Antenna (External) Boeing

To: 1 Antenna (Faired-in Type) Convair

* 2 Antenna (Low Drag) Convair

(* One supplied as loose equipment - not included in airplane weight empty.)

Page 104C, add the following illustration:

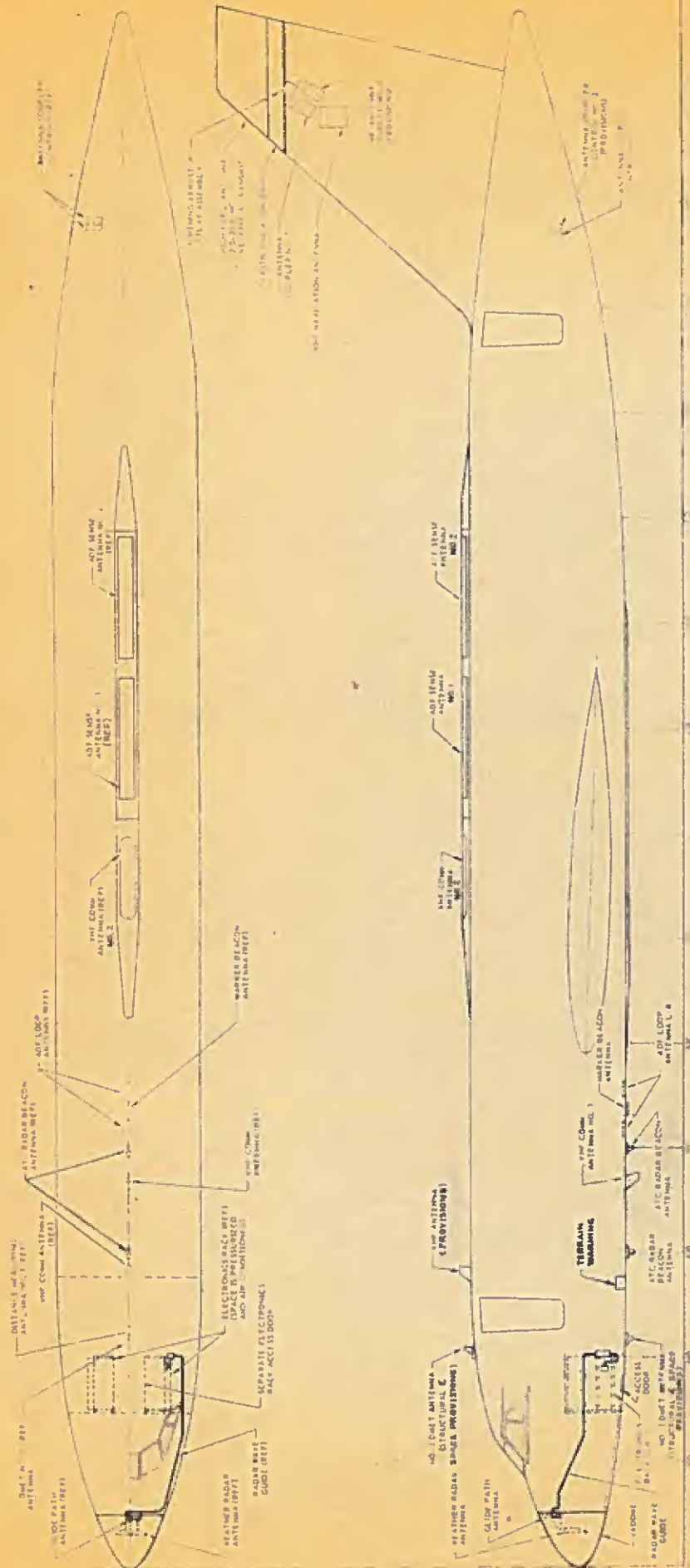
"Antenna Arrangement"

Enclosure: (A) One (1) copy of Antenna Arrangement Illustration, Page 104C.

Effect on Weight Empty: 0

Effect on Balance: 0

Effect on Performance: None



ANTENNA ARRANGEMENT
Figure 3.17-3
(For Antenna location only)

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-002 DATE: _____
CUSTOMER: Hughes Tool Company MCL --- Dtd ---
CHANGE NO: 115A MODEL: (880) 22-1

TITLE: Structural Provisions for Overwater Operation

ORIGIN: Meeting of 2 October 1957 between W. H. Spannuth of TWA and
Convair Representatives, and TWA Letter 880-484 dated 20 Janu-
ary 1958.
REASON FOR CHANGE: Customer requested; and revision to CCP No. 115.

EFFECT ON WEIGHT *		EFFECT ON BALANCE *
Guar. Wt. Empty	Oper. Wt. Empty	
0	0	0 Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:
Recurring: _____
Non-Recurring: _____
Total: _____

ACCEPTED:

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

Chief of Contract Administration
Commercial

DATE: _____

CONVAIR: SD

Hughes Tool Company
Change No. 115A

Title: Structural Provisions for Overwater Operation

Origin: Meeting of 2 October 1957 between W. H. Spannuth of TWA and Convair Representatives, and TWA Letter 880-484 dated 20 January 1958.

Reason for Change: Customer requested; and revision to CCP No. 115.

Description of Change:

Page 25, Paragraph 3.7.1.1 DESCRIPTION:

Add the following sentences to the end of paragraph:

"Structural provisions shall be made, in the fuselage below the cabin floor level only, to permit the airplane to withstand water ditching loads compatible with the results obtained from NACA model tests. The structural provisions shall include reinforcement to the frames, hinges and latches of the following closures:

1. Two cargo doors
2. Electronics compartment access door
3. Hydraulic compartment access door
4. Door at the top of nose wheel well
5. Two miscellaneous equipment access doors (Sta. 221, L. & R.)

Additional local doublers and reinforcement as required shall be provided on the longerons adjacent to the doors."

Effect on Weight Empty: 0
Effect on Balance: 0
Effect on Performance: None

CONVAIR
A Division of General Dynamics Corporation
San Diego, California

COMMERCIAL CHANGE PROPOSAL

SPEC NO: ZD-22-00 2

DATE: _____

CUSTOMER: Hughes Tool Company

MCL _____ Dtd _____

CHANGE NO: 114

MODEL: (880) 22-1

TITLE: **Specification Administrative Change**

ORIGIN: **Contractor Initiated**

REASON FOR CHANGE: **To clarify Present Specification**

EFFECT ON WEIGHT *

EFFECT ON BALANCE *

Guar. Wt. Empty

Oper. Wt. Empty

0

0

0

Inch Lb.

EFFECT ON GUARANTEED PERFORMANCE: *

None

* Negligible Changes Will be Accumulated and
Totals Reflected in a Future Change Proposal

Acceptance of this Change is Dependent Upon
Prior Acceptance of the Following Changes:

Engineering Approval

LATEST DATE OF ACCEPTANCE:

AIRPLANES AFFECTED:

SPECIAL PROVISIONS:

EFFECT ON PRICE PER AIRPLANE:

Recurring: _____

Non-Recurring: _____

Total: _____

ACCEPTED: _____

CONVAIR, A Div. of Gen. Dyn. Corp.

BY: _____

BY: _____

DATE: _____

Chief of Contract Administration
Commercial

CONVAIR, S.D.

Hughes Tool Company
Change No. 114

Title: Specification Administrative Change

Origin: Contractor Initiated

Reason for Change: To clarify present specification

Description of Change:

Page 74 Paragraph 3.16.8.1.4 ANTI-COLLISION LIGHTS:

Revise the third sentence to read as follows:

"Drainage provisions shall be made in the lower light to assure fluid drainage as a result of accumulation of condensed moisture or other fluids which may become trapped".

Add the following after the third sentence

"The installation of the upper light shall be sealed to prevent condensation and the entrance of moisture".

Effect on Weight Empty:	0
Effect on Balance:	0
Effect on Performance:	None